sciendo

Acta Educationis Generalis
volume 9, 2019, issue 2

DOI: 10.2478/atd-2019-0006

Developing Students' Language Competence and Essential 21st Century Skills for Future Employability: The Case of Latvia and Lithuania

Ineta Luka – Irena Seniut*

Received: March 10, 2019; received in revised form: June 18, 2019;
accepted: June 22, 2019

Abstract:
Introduction: Nowadays, language and intercultural competences have become core employability skills in many fields, supporting the development of other skills which emphasizes the necessity for specific pedagogic approaches in developing online learning materials and courses that would develop learners' language competence and other relevant 21st century skills for future employability. The current comparative summative evaluation research conducted in two higher education institutions in Latvia and Lithuania analyses students' feedback, elicited from 200 students, on the efficiency of the methods and methodologies applied in the course development and their suitability to develop the above-mentioned skills and competences.
Methods: The research implies a mixed-model design comprising a students' questionnaire (a quantitative tool) and students' essays (a qualitative tool). Quantitative data analysis was done applying descriptive and inferential statistics tests by IBM SPSS 22 software, qualitative data analysis – applying discourse analysis.
Results: The findings indicate that students highly evaluate the learning platform and the courses created. They find them as useful, visually appealing, interesting, interactive, well-structured, and easy to understand. Students acknowledge that they have developed their knowledge of professional lexis, reading skills, grammar and gained useful knowledge in their field. Significant differences were found concerning students' group, specialization and the course completed – local students vs. international students as to the evaluation of the learning platform, students of IT field vs. business fields, Latvian students vs. Lithuanian students as to the

* Ineta Luka, Turiba University, Language Department, Riga, Latvia; ineta@turiba.lv
Irena Seniut, Vilnius Business College, Vilnius, Lithuania; irena@kolegija.lt

intercultural B2/C1 English course completed. The research results strengthen the cognitions derived from theory on significant issues to be observed when creating blended-learning courses.
Discussion: The course designed is an alternative way of learning and may be useful for anyone who wishes to update their language and intercultural competence either through a formal or non-formal education course or on a lifelong learning basis.
Limitations: The research period covered one semester only. Although the study materials for 16 languages have been created, the current paper analyses only the results obtained in piloting English and Spanish courses, with the predominance of learners opting for English courses.
Conclusions: The research results show that the methods and methodologies applied in the given interactive blended-learning courses have developed the students' language competence and have fostered the development of their digital competence, team-working and collaboration skills, problem-solving skills and learning-to-learn thus motivating them to become autonomous learners. The pedagogy-based approach applied in the current research has been successful despite a few flaws in the design of the course materials.

Key words: language competence, 21st century skills, blended-learning.

Introduction

Contemporary world shows changes in employability patterns and skills required in the future. 'The employers' needs and requirements regarding the employees' skills change continuously' (Sós, 2018, p. 55). Several large-scale projects and researches (e.g., OECD, 2018; Cedefop, 2016; World Economic Forum, 2015; Scott, 2015; enGauge 21st century skills, 2003) have been conducted worldwide to define the skills and competences required in the future. All of them stress the importance of problem-solving, creativity, communication, collaboration, cultural awareness and the ability to communicate in several languages. Furthermore, in the future, while 'navigating through a complex and uncertain world' (OECD, 2018, p. 4), decision making and playing 'an active part in all dimensions of life' (OECD, 2018, p. 5) will become more and more significant. Therefore, collaboration skills, a sense of responsibility, design thinking and systems thinking are crucial. Moreover, they are inseparable from an adequate language competence level in order to update information, study innovations and best practices internationally.

According to the latest Eurostat data (2016), 35.3% of the working-age adults in the EU-28 acknowledged not speaking any foreign languages at all. 35.2% indicated they could communicate in one foreign language, 21.0% - in two foreign languages, and just 8.4% - in three or more foreign languages. Latvia and Lithuania are at the top of the list, as more than 95% of working-age adults speak at least one foreign language. However, this result has been attained

thanks to the fact that older generations learnt Russian and younger generations – English at school. The level of first foreign language skills is high. 73.2% of working-age adults in Latvia and 74.4% in Lithuania have proficient and high first foreign language level (Eurostat, 2018). Although this is a positive result, there are many factors, such as, history of countries, geographical location, political and socio-economic factors, etc., that require the active use of more than one foreign language on a regular basis. Due to growing mobility, international cooperation, knowledge exchange, the ability to communicate in other languages previously less traditional for the Baltic region, e.g., Spanish, Italian, or Czech is becoming an advantage.

Moreover, "A European Roadmap for Linguistic Diversity" (2015, pp. 4-5) sets forth four main directions that have to be strengthened: adopting a holistic multilingualism policy in the EU; enhancing the crucial role played by languages in social cohesion, personal, social and economic development, including mobility; the use of ICT to promote language learning and supporting the use of regional, minority, endangered EU languages.

In the given context, it is essential to develop new, interactive learning materials that would enable students to develop their language skills and simultaneously enhance their relevant professional skills and competences and increase learners' field knowledge. This also coincides with the priorities for European cooperation set in education and training stressing the need for 'more active use of innovative pedagogies and digital skills and tools' (European Commission, 2015, p. 5) to develop VET (vocational education and training) learners' employability skills for the changing labour market and contribute to a cohesive society.

It is true that 'communication and collaboration involve working in coordination with others to convey information or tackle problems' (World Economic Forum, 2015, p. 3). Consequently, languages are no longer considered only as a means of communication, but language skills are an important 'economic, educational and cultural driver', and ICT has become 'a powerful mechanism to ensure effective learning and teaching of languages' (A European Roadmap for Linguistic Diversity, 2015, p. 14). Therefore, the issue of developing learners' language competence, at the same time enhancing their 21st century skills, is at the very centre of the current research.

In order to contribute to skills development and increase VET learners' intercultural and language competences, an Erasmus+ project "Language skills and intercultural issues in the hospitality industry: Unity in diversity in the EU labour market" (Project No: 2016-1-HR01-KA202-022160; 2016-2018) was implemented. Nine countries (Croatia, the Czech Republic, Italy, Latvia, Lithuania, Slovenia, Romania, Turkey, and the UK) collaborated on the project addressing the following specific objectives in the field of education and training: 1) improve the level of key competences and skills (employability skills, language and intercultural competences), with particular regard to their

relevance for the labour market and their contribution to a cohesive society (providing better cultural awareness and increased language competence); 2) improve teaching/learning of languages and promote the EU's broad linguistic diversity and intercultural awareness (developing language teaching/learning courses integrating the culture of European countries), and foster creativity in language learning. The project targeted 16 languages: Croatian, Czech, English, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Romanian, Russian, Slovenian, Spanish, Swedish, and Turkish (Languages4all.eu, 2016).
This paper presents the results of the summative (outcome) evaluation research done in Latvia and Lithuania to evaluate the two courses created - the intercultural blended-learning English language course (B2/C1 level) and the A2/B1 level interactive language learning course in 16 languages, and their application to develop students' language competence as well as enhance their relevant 21st century skills required at work in their field.

1 Theoretical background

1.1 21st century skills

The term '21st century skills' - one of the most ubiquitous terms nowadays (Silva, 2009, p. 630) - dates to the early 1980s when scholars, practitioners, politicians, entrepreneurs in many countries, e.g., in Canada, the USA, New Zealand, determined the need for researching the skills and competences required in the future. Due to the consequences of globalization and increasing mobility, life is changing and, consequently, in the future employees will need a different mind-set to survive and succeed (Ananiadou & Claro, 2009, pp. 5-6). Therefore, it is essential to analyse 21st century education requirements and understand the interpretation of the term.
'The term '21st century skills' refers to a broad set of knowledge, skills, work habits, and traits of character that are believed to be critically important to succeed in today's world, particularly in collegiate programs and contemporary careers and workplaces. Generally speaking, 21st century skills can be applied in all academic subject areas, and in all educational, career, and civic settings throughout a student's life' (The Glossary of Education Reform, 2016).
As argued by Marope (2014, p. 484), although the term '21st century education' is widely used as well, scholars still do not have a single common interpretation of it. Moreover, some of the so-called 21st century skills are not new, but they have gained momentum, e.g., critical thinking and problem solving (Chu, Reynolds, Tavares, Notari, & Lee, 2017, p. 18; Silva, 2009, p. 631).
As mentioned above, several skills frameworks have been elaborated or are being developed now, e.g. OECD Skills Framework 2030. According to Care and Anderson (2016, p. 5), 'Education of the 20th century was characterized mainly by content and knowledge accumulation rather than the skills and competence development. Whereas, it is evident that now 'an emphasis on what

students can do with knowledge, rather than what units of knowledge they have, is the essence of the 21st-century skills' (Silva, 2009, p. 630).
Regardless of the variety of skills classifications, all of them include learning-to-learn, innovation, communication, collaboration, creativity, critical thinking, problem-solving, personal and social skills (Chu, et al., 2017, pp. 17-32; Queensland Curriculum & Assessment Authority, 2015, pp. 4-11), decentralized decision making, information sharing, teamwork, and innovation (Binkley, Erstad, Herman, Raizen, Ripley, Miller-Ricci, & Rumble, 2012, p. 17) emphasizing knowledge, skills and values required for successful life in the 21st century.
Thus, to sum up, 21st century skills are 'those skills and competencies young people will be required to have in order to be effective workers and citizens in the knowledge society of the twenty-first century' (Ananiadou & Claro, 2009, p. 8).

1.2 Learning a language for special purposes

Previous research on essential skills and competences required to succeed in the future in many fields, including tourism and hospitality, highlights the significance of creativity, problem-solving, collaboration, decision making, communication and cultural awareness, willingness to learn, commitment (Millar & Park, 2013, pp. 80-88; Donina & Luka, 2014, pp. 101-113; Wang & Tsai, 2014, pp. 127-133; Saunders & Zuzel, 2010, pp. 6-7). Furthermore, English language skills have been repeatedly mentioned among crucial 21st century skills to manage business, work with technical and specialized documents, etc. (Suto, 2013, pp. 1-5).
Research conducted on language learning (Laborda & Litzler, 2015, pp. 44-45; Schmitt, 2000, pp. 116-131; Yang & Wu, 2015, pp. 309-310) emphasizes the key role of vocabulary in second language learning. Laborda (2009, pp. 258-259) indicates that students have to learn how to communicate in a professional environment demonstrating adequate language fluency, and the ability to use the appropriate professional lexis. What is more, since students will work in various cultural contexts, a high level of intercultural competence is crucial. 'Familiarization with the achievements of other countries and peoples, the basics of communication in different languages' (Ryabchikova, 2018, p. 113) may be included as a component of the study material in the target course. The idea is strengthened by other scholars who also 'recognize the value of the voices of diverse learners considering language acquisition through a sociocultural lens' (Grigsby, Theard-Griggs, & Lilly, 2015, p. 61).
Research on adult second language learners (Schmitt, 2000, pp. 4-6) reveals that vocabulary is not spontaneously acquired but learnt through numerous exposures. Usually it is acquired through extensive reading, listening and oral communication (Krashen, 1989, pp. 440-444). Oral communication is significant both in studies and the professional environment. Hence, the focus of university

studies more and more frequently is on English for Academic Purposes (EAP) – a fast developing field, whose main objective is to 'teach the language, both general academic language and subject specific language as well as language related practices' (Tuomaitė & Zajankauskaitė, 2017, pp. 114-115), whereas VET institutions focus on English for Special or Specific Purposes (ESP), even Languages for Special or Specific Purposes (LSP).

LSP is characterised by the learning-oriented approach as the course is usually built considering stakeholders' needs elicited through needs analysis done prior the course design. As argued by Simándi (2017, p. 97) this approach comprises practice-oriented activity-based learning situations.

Thus, the language syllabus of VET institutions includes relevant professional lexis and basic academic lexis necessary to succeed in studies and work. In both cases, special attention should be paid to the teaching/learning materials used and the tasks designed.

Learning materials have to incorporate features of learning a general language as well as consider the specific lexis in the context of the learners' profession. As argued by Tomlinson (2003, pp. 20-23), language learning materials must have novel attractive and appealing content to achieve their impact, expose learners to a language in authentic use, and include adequate linguistic features. Authentic materials and language use in everyday work contexts is typical to learning ESP (Lu & Chang, 2016, pp. 375-376). The same may be attributed to learning other languages for professional use, i.e., LSP.

It also has to be added that 'foreign language learning/teaching has undergone major changes since the advent of digital media as a tool for language studies. New technologies offer efficient ways for retrieving information, facilitating communication' (Marcinkonienė & Zdanytė, 2015, p. 106). The spread of various online language learning platforms still raises a question of adequate methodologies to be used when designing tasks, the content of the material and teaching/learning methods applied, as well as selecting the Learning Management System (LMS). Application of online language learning materials in studies develops both the students' language competence and digital competence which are significant 21st century skills as well.

1.3 Creating an interactive blended-learning language course

Considering all the above said, a blended-learning course containing online and face-to-face stages was created.

In this research blended-learning is defined as learning facilitated by effectively combining different modes of delivery, models of teaching, and styles of learning (Heinze & Procter, 2004, p. 3) in the form of a combination of dominant online learning with interactive and problem-based face-to-face activities targeted at developing LSP competence.

The advantages of blended-learning over pure online learning are direct face-to-face and indirect online communication with learners, individualised feedback

(Olejarczuk, 2014, pp. 61-62), more flexible learning patterns, extension of materials and learning scenarios outside the classroom, individualised approach to each learner based on their language proficiency level, learning styles and learning experiences (Bueno-Alastuey & López Pérez, 2014, pp. 510-511), its integrative character and correspondence to constructivism learning theory and student-centred learning (Kaya, 2015, pp. 4-6, pp. 11-12; Luka, 2016, pp. 139-141).

Interactivity is ensured by applying interactive tools, such as, online and face-to-face games, video tasks, interactive websites, vialogues (video+dialogue used to initiate a discussion), online crosswords, etc., whereas problem-based learning is ensured by applying case studies, web-quests, project work, etc.

Case studies have been interpreted by Stone & Ineson (2015, pp.xv-xvi) as a learning strategy through which learners are required to consider, debate and offer possible solutions to problem questions stemming from real-life or simulated business situations based on personal or "second-hand" experience, observations, research, etc. to develop their language and intercultural competences, creativity and problem-solving skills.

The case studies created in the target course are language case studies which differ in their focus from the case studies used in other disciplines. As emphasised by Fischer, Casey, Abrantes, Gigl, and Lešnik (2008, pp. 18-19) in language case studies 'content is a tool and the language becomes the objective of the activity […]; therefore, content is normally less detailed, and results are assessed mainly for their linguistic competence.'

However, it has to be added that doing language case studies learners develop relevant 21st century skills as they need to involve reasoning, analysing, synthesising abilities, cooperate and communicate in the process of solving the problem.

Web-quests are partly like case studies but more demanding as they require collecting factual information and they end with a creative output, e.g., a presentation, an itinerary, a conference agenda, etc. Application of those methodologies place a learner in a real or imaginary professional setting and situation and learners are exposed to a certain problem situation they have to solve in a foreign language thus not only developing their language skills but also enhancing their creativity, problem-solving, team-working, etc.

2 Methods

2.1 Research focus

The current study presents the results of the research conducted within the previously-mentioned Erasmus+ project in 2018, focussing on a comparative analysis of the summative evaluation research results obtained in Latvia and Lithuania. The results depict students' opinion on the A2/B1 interactive

language learning course and intercultural B2/C1 English course and students' self-evaluation results. The course piloting and evaluation was done in all partner countries, but this research focuses on the results obtained in Latvia and Lithuania, since the teaching/learning context and the profile of the HEIs represented are similar.

In order to evaluate the efficiency of the courses created summative evaluation research was conducted (O'Leary, 2010, pp. 138-141) applying a students' survey and analysing students' essays.

The course piloting lasted for 3 months. Students had an introductory workshop to get familiar with the interactive learning platform, then they did online tasks independently, in parallel they had regular group meetings to do face-to-face tasks and case studies. After the course piloting the students filled in evaluation questionnaires and wrote feedback essays.

2.2 Research context

Two medium-sized higher education institutions (HEIs) founded by legal persons offering Bachelor level professional education in management related positions in the fields of tourism and hospitality, communication and languages, business, IT, etc. were selected. Both HEIs have strong internationalization strategies and 30-40% of their full-time Bachelor students are international students. The languages of instruction are the national language (Latvian; Lithuanian) and English. Both institutions have actively participated in various international projects to research novel ways and approaches of implementing the study content thus striving to improve their teaching/learning. The HEIs have also been project partners in several applied science projects jointly working on developing online tools for developing students' language competence, entrepreneurship, and other essential management skills.

2.3 Research aim, research problem and research question

The research aim is by conducting summative evaluation research to evaluate the efficiency of the methods and methodologies applied in the courses designed and their application to develop students' language competence as well as enhance relevant 21st century skills required at work in their field.

The research problem is associated with developing learners' Languages for Special Purposes (LSP) competence - how to select appropriate tools and methodologies that could develop learners' language competence at the same time enhancing the development of their 21st century skills and how to motivate learners to apply the tools created for their autonomous learning.

The research question: Has the pedagogy-based approach selected to create the course been effective in developing learners' language competence and their 21st century skills and does it motivate students to become autonomous learners?

2.4 Research tools

The questionnaire comprised 38 Likert scale type opinion variables (Fawcett & Pockett, 2015). Additionally, the questionnaire also included several questions on respondents' profile (country, languages spoken, language levels, age group, field of studies and the number of years they have studied the target language). It covered the evaluation of the learning platform (10 variables), course content, methodologies and skills development (11 variables for each A2/B1 course and 17 variables for the B2/C1 English course). The questionnaire was applied-face-to-face during the post course piloting session.

The feedback essays were written to evaluate each of the courses done. Students were encouraged to record their experience while piloting the courses, their overall impression, positive and negative aspects, their commentary, etc.

2.5 Research sample

200 students (97 in Latvia, 103 in Lithuania) were involved in the evaluation research. Students' profile: 119 studied Tourism Management, 24 Events Management, 7 Business Administration, 19 International Communication, 31 IT; 125 were local Latvian and Lithuanian students, 75 international students; 90 students piloted A2/B1 English course, 13 - A2/B1 Spanish course and 165 - B2/C1 English course. Some students piloted several courses. The level of students' English language competence: 8 - C2 level, 51 - C1 level, 90 students had B2 level, 36 - B1 level, 9 - A2 level, and 5 - A1 level. 69 students (35%) have studied English for more than 10 years and 52 students (26%) for 5 - 10 years. The most popular second foreign language was Russian – 99 students (50%) spoke Russian and 47 students (24%) were native Russian speakers. Another popular language spoken was Spanish - 55 students (28%) spoke it with some level of fluency. 20 students (mostly international students) stated that they could communicate in Turkish.

2.6 Research methods

The research implies a mixed-model design (Saunders, Lewis, & Thornhill, 2009, p. 152) involving a quantitative tool - a students' questionnaire and a qualitative tool - students' essays. Quantitative data analysis was done applying descriptive and inferential statistics tests by SPSS - frequencies, means, modes; to find significant differences between the groups due to not-normal empirical distribution Mann-Whitney test (for 2 groups) and Kruskal-Wallis Test (for <2 groups) (Walliman, 2016, pp. 146-158), qualitative data analysis - applying discourse analysis (Fawcett & Pockett, 2015, pp. 64-67).

The reliability coefficient shown in Reliability Statistics table displayed as a simple Cronbach's Alpha indicates very good internal consistency reliability for the scales with the given sample (α=0.918).

3 Results and discussion

3.1 Evaluation of the learning platform

Students evaluated the interactive learning platform highly - the means (M) ranging from 3.0400 to 3.5000 (max=4.0000), modes (Mo) 4.00 and 3.00. They found the interactive learning platform useful (M=3.5000), visually appealing (M=3.0400), interesting (M=3.3650), interactive and creative (M=3.3200), well structured (M=3.0150), and they will suggest it to other learners (M=3.2050).

No significant differences have been found between the answers of the students of both HEIs (Asymp.Sig.2-tailed=0.053-0.763), except 'found the platform useful' (Asymp.Sig.2-tailed=0.001), wherein the students of Latvia gave a higher evaluation (Mean Rank=112.61) than the Lithuanian students (Mean Rank=89.10) and 'found the platform interactive, creative', wherein the Latvian students gave a higher evaluation (Mean Rank=108.09) than the Lithuanian ones (Mean Rank=86.10). These results might be explained by the fact that due to the limited number of class lectures Latvian students have less experience in using various online sources for language learning than Lithuanian students and consequently they have fewer possibilities to compare various sources.

International students evaluated the platform more highly than the local Latvian and Lithuanian students and they would more likely suggest the platform to other learners (Mean Rank=111.46 vs.93.92, Asymp.Sig.2-tailed=0.024).

IT students found the platform less useful (Mean Rank=62.89; Asymp.Sig.2-tailed=0.000), less interactive and creative (Mean Rank=64.15; Asymp.Sig.2-tailed=0.000) than the students of other specializations, which may be explained by their higher proficiency in technologies. Tourism Management students found the platform more interesting (Mean Rank=108.90; Asymp.Sig.2-tailed=0.000) than the others, which may be explained by the specific tourism related content of the courses. Business Administration students found the platform better structured (Mean Rank=157.86; Asymp.Sig.2-tailed=0.001) than the other students and they would be more likely to suggest it to other learners (Mean Rank=123.43; Asymp.Sig.2-tailed=0.000). In the essays they also confirmed that the learning was 'structured and easy to understand.'

No significant differences have been discovered as to the evaluation of the platform according to the language course piloted (Asymp.Sig.2-tailed=0.102-0.981), which indicates that the learning platform is suitable for creating any language course.

The students' essays validate the quantitative data. They appreciated 'creativity of tasks', 'liked the interface of this quiz', and found the platform easy to use, for example, 'I liked this project, it is easy to understand, and students can get useful knowledge from this project' and 'everything was clear, easy to understand and really useful.'

3.2 Evaluation of the B2/C1 English course

Comparing the B2/C1 English course and the A2/B1 courses created, the intercultural B2/C1 English course got a slightly higher evaluation. The students found the B2/C1 English tasks useful (75.5% of students; M=3.5152, Mo=4.00), easy to understand (73%; M=3.8182, Mo=4.00) and interesting (69%; M=3.2727, Mo=4.00 and 3.00); the case studies - useful (70%; M=3.1697, Mo=3.00), interesting (69%; M=3.1818, Mo=4), creative (65%; M=3.0909, Mo=4.00); the face-to-face tasks - useful (57.5%; M=2.8061, Mo=3.00), interesting (56%; M=2.7879, Mo=3.00), creative (52%; M=2.6970, Mo=3,00). They admitted having learnt specific vocabulary (65%; M=3.1030, Mo=3.00 and 4.00), developed reading skills (60%; M=2.9636, Mo=3.00), and gained general and intercultural knowledge (69%; M=3.1758, Mo=3.00 and 4.00) which is a dual aim of any English for Special Purposes (ESP) course - to provide language learners with an opportunity to learn some new facts, information and increase their field knowledge at the same time developing learners' English language competence.

The qualitative data validate the quantitative ones. The most frequently used keywords are new, good, interesting, useful, entertaining, creative, clear, understandable, developed language skills, liked videos on cultures, positive, good learning experience. However, at the same time the students also highlighted certain problem areas.

Concerning the improvements required, there is a difference according to the students' specialization. Tourism Management students found it a bit inconvenient to navigate through the platform and move from task to task, 'some answers are too long and difficult to understand', they expected to have more pictures with the tasks, some answer options seemed illogical to them. IT students pointed to technical problems more and the design, for example, 'I liked the idea but not the way it was carried out', 'listening audio has to be improved, mistakes in reading.' They also commented on face-to-face tasks, for example, 'communication tasks are good, valuable and interesting information, but tasks could be more interesting.'

This coincides with the evaluation of face-to-face tasks, in general. Comparing the evaluation results of face-to-face tasks (M=2.7636), case studies (3.1475) and on-line learning tasks (M=3.3197) (max=4.0000), face-to-face tasks received a lower score. In order to find problem areas in face-to-face tasks, an analysis has been done according to the 3 categories evaluated: usefulness of face-to-face tasks, how interesting they are, and their creativity (Figure 1).

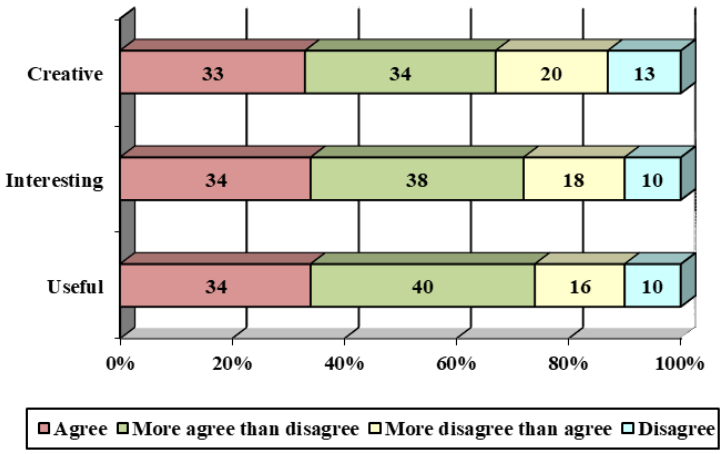

Figure 1. Evaluation of the B2/C1 English face-to-face tasks by the students, % (developed by the authors).

As it can be seen from Figure 1, all the categories received a similar evaluation. Therefore, a further analysis of the means has been done according to the students' specialization (Figure 2).

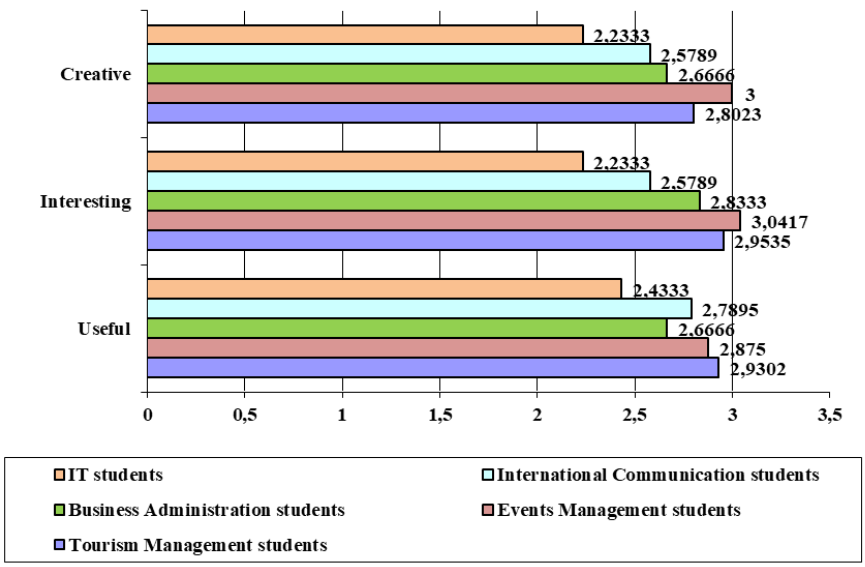

Figure 2. Evaluation of the B2/C1 English face-to-face tasks by the students' specialization, means (max=4.0000) (developed by the authors).

As it is evident from Figure 2, the students studying IT gave a lower evaluation to face-to-face tasks, which may be explained by the nature of the tasks as most of the tasks have been created specifically for certain problems that employees may face when dealing with their customers. As IT specialists are not involved in directly serving clients, this may be a reason for the task evaluation as well, because they are bound to solve technical problems not the service ones.

Another type of tasks introduced is web-quests. A web-quest is defined as 'a research activity that requires the learner to collect information about a subject using the web' (Laborda, 2009, p. 59). It corresponds to a socio-constructivist learning approach supporting students' collaboration and involvement of all students in the activity, at the same time it contributes to acquiring content-based knowledge and developing students' language competence and interaction skills, as well as stimulates collaboration, taking responsibility for one's own work and that of the group-mates as usually web-quests are done in small groups (2-3 students) and they have to present the final output of the group-work.

Significant differences have been discovered between both HEIs for all the variables evaluating the intercultural B2/C1 English course (Asymp.Sig.2-tailed=0.000-0.023). Although the Lithuanian students evaluated the learning platform lower than the Latvian students, they have given a higher evaluation for the B2/C1 course in all the aspects. This means that the students' general idea and expectations of learning outcomes differ.

No significant difference has been found in terms of the students' group - local or international students (Asymp.Sig.2-tailed=0.051-0.920). Thus, the results may be generalized that the B2/C1 English course is suitable for students of any nationality, but the requirements and the learning outcomes to be attained depend on the institution.

Similar to the platform evaluation, significant differences have been found analysing the data by the students' specialization. Surprisingly, both Tourism Management students and IT students found the B2/C1 English tasks less useful than the students of other specializations (Mean Ranks 95.92 and 87.26 respectively, Asymp.Sig.2-tailed=0.036). They also found them less interesting (Mean Ranks 96.43 and 79.24, Asymp.Sig.2-tailed=0.005) and less interactive, creative (Mean Ranks 97.16 and 79.79, Asymp.Sig.2-tailed=0.012). Concerning IT students, the reason could be that the learning course is more targeted at students of service industries, whereas the reasons for such results for Tourism Management students is not clear. The answer could not also be inferred from the students' essays, so this issue has to be further researched. Some other significant differences have been found in the students' self-evaluation of their reading skills (Asymp.Sig.2-tailed=0.009), grammar habits (Asymp.Sig.2-tailed=0.022) and for the variable 'found case studies interesting' (Asymp.Sig.2-tailed=0.045). The students of Business Administration have evaluated the development of their reading skills using the B2/C1 English course (Mean Rank=150.21) and grammar habits (Mean Rank=144.29) higher than other

students. IT students have found the case studies less interesting than other students (Mean Rank=85.26) which could be explained again by the specific lexis and problems to be solved in their field.
Comparing the research findings with the theory and findings obtained in other research dealing with 21st century skills (e.g. Szobiová, 2015), it becomes evident that more attention should be paid to creativity development, because 'demand for creativity and innovation in the work environment is growing' (Szobiová, 2015, p. 78), and the current research demonstrated average results therein.
To sum up, the intercultural B2/C1 course is useful for students of any nationality studying in the fields connected with service industries and businesses, but the learning outcomes largely depend on the HEI.

3.3 Evaluation of the A2/B1 languge courses

103 students piloted the A2/B1 language courses. As mentioned above, the B2/C1 English course got a slightly higher evaluation than the A2/B1 language courses. The means for the A2/B1 course evaluation range from 2.3883 to 3.5243 (max=4.0000), the lowest being connected with the evaluation of skills development. For example, listening skills were evaluated with 2.3883, reading skills with 2.8835, grammar habits with 2.7476 and the vocabulary learnt with 2.9126. Although the means are not very high, the students found the A2/B1 tasks useful (M=3.4563) and interesting (M=3.5243) - 'It was interesting and useful to listen to the tasks and answer the questions', 'I really liked the module. It is a different way of learning while testing your knowledge by giving certain answers', 'Tasks useful, creative and interesting.' At the same time the students indicated many issues to be addressed - most of them related to the task design, the design and functioning of the interactive maps, finding the information required, and specific features of the interface, etc. It has to be emphasized that the IT students made very useful suggestions regarding technical issues, thus, the piloting has been very useful in this respect. However, the findings differed from those received at the course piloting of the previous project "Key Skills for the EU Hotel Staff", the predecessor of the current project (Luka, 2018, pp. 452-455), wherein the course was piloted with tourism and hospitality business students only and the piloting did not result in receiving such detailed suggestions for the course improvement. This clearly shows that any large-scale product created has to be first piloted with different audiences, and only then released as a teaching/learning aid.
Comparing the difference between the two A2/B1 language courses piloted - English and Spanish, the students piloting the English course evaluated the course more highly, with the exception of variables measuring how interesting the tasks are and their interactivity and creativity. Whereas, concerning skills development, an opposite trend has been observed (Figure 3).

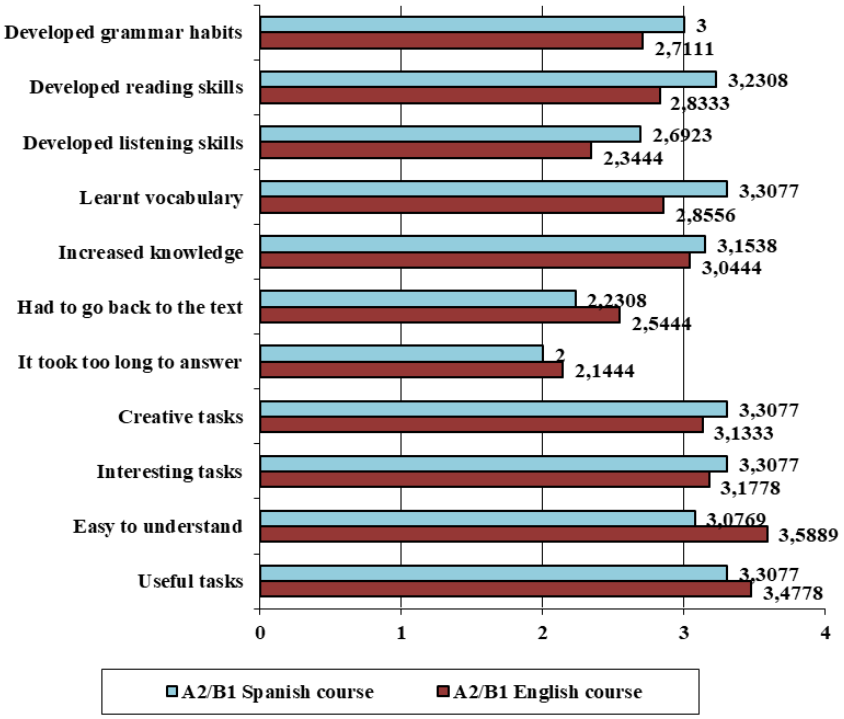

Figure 3. Evaluation of the A2/B1 English and Spanish course, means (max=4.0000) (developed by the authors).

As it can be seen from Figure 3, no significant differences are evident and overall the A2/B1 course received a high evaluation. It has to be emphasized that according to the findings, the level of the difficulty was appropriate as well.
However, the in-depth analysis of the A2/B1 course piloting revealed significant differences:

- Latvian students provided a higher course evaluation than the Lithuanian ones (Asymp.Sig.2-tailed=0.000);
- International students provided a higher course evaluation than the local Latvian and Lithuanian students (Asymp.Sig.2-tailed=0.000-0.007);
- Business Administration students found the tasks more useful (Asymp.Sig.2-tailed=0.000) and easier to understand than the students of other specializations (Asymp.Sig.2-tailed=0.000);
- International Communication students found the tasks less interesting (Asymp.Sig.2-tailed=0.000), less interactive and creative (Asymp.Sig.2-tailed=0.000), it took them less time to do the tasks (Asymp.Sig.2-tailed=0.000) and consequently they less often than other students had to go back to the text to find the answer (Asymp.Sig.2-tailed=0.000), but at

the same time the information obtained increased their general knowledge less (Asymp.Sig.2-tailed=0.000) and they developed their language competence less than the other students (Asymp.Sig.2-tailed=0.000).

The qualitative data obtained from the students' essays validate the quantitative ones as the most frequently observed keywords are liked, interesting, useful, developed, helped, good, understand, creativity, fine.
To sum up, the A2/B1 courses may be applied for developing language skills of students of any specialization as at this language level any topic includes information and phrases useful for everyday communication and the texts and the listening tasks are less content-specific than in the B2/C1 level course.

3.4 The impact of the English language competence on the evaluation results
Finally, since the language of instruction and explanation is English, an assessment was done on whether the length of time studying English and the English language level impacted the evaluation of the learning platform and the courses as well as the learning outcomes attained.
No significant differences have been found in terms of the length of studying English. The only two variables with a significant difference were: 'found the platform interesting' (Asymp.Sig.2-tailed=0.047) and 'will suggest the platform to other learners' (Asymp.Sig.2-tailed=0.033). The students studying English for 5-10 years have provided a higher evaluation (Mean Rank=81.50 vs. 65.50, 71.60, 71.20, 63.42 by other students) which may be explained by the fact that they are quite experienced learners and have probably tried various teaching/learning means, thus they can compare and evaluate them. The students who have studied English just for a year are more likely to suggest the platform to other learners (Mean Rank=106.00) compared to the others, which again might be explained by the fact that they may be impressed by the variety of the learning material the platform offers. This is further validated by the students' essays wherein they write that they 'like the platform, more interesting than reading', 'a nice platform', 'I liked it very much.'
However, significant differences have been observed in most variables according to the students' English language level. No significant differences have been discovered concerning the evaluation of the learning platform (Asymp.Sig.2-tailed=0.106-0.880), with the only exception of the time required to understand how the platform works (Asymp.Sig.2-tailed=0.027). The lower the English language level, the more time was needed to find out the way the platform functions, which is natural as the explanations for the tasks are in English, although the technical guidelines are given in all the course languages (16 in total). Thus, these results may be generalised, and it may be concluded that such kind of a learning platform is suitable for any language learner, disregarding their English language competence level.

Significant differences have been found concerning the B2/C1 English course evaluation. The higher the students' English language competence level, the less useful they found the B2/C1 English course (Asymp.Sig.2-tailed=0.015) which might mean that the language material included is too simple for the learners. Moreover, the higher the students' English language competence level, the less interesting (Asymp.Sig.2-tailed=0.009), the less creative and interactive (Asymp.Sig.2-tailed=0.001) they found the tasks, the less they increased their general knowledge (Asymp.Sig.2-tailed=0.022), the less vocabulary they learnt (Asymp.Sig.2-tailed=0.008), the less they developed their listening (Asymp.Sig.2-tailed=0.047) and reading skills (Asymp.Sig.2-tailed=0.010) and grammar habits (Asymp.Sig.2-tailed=0.005). Significant differences have also been found concerning face-to-face tasks. And similarly to the above-written, the higher the students' English language competence level, the lower they evaluated the face-to-face tasks as well (Asymp.Sig.2-tailed=0.000-0.006). This indicates that the course is possibly too easy for C1 and for C2 users. Although the texts are long and contain specific lexis and language constructions, the course is more suitable for language learners up to B2 English level.
As to the A2/B1 language courses, significant differences have been found for all the variables (Asymp.Sig.2-tailed=0.006-0.042), except listening skills (Asymp.Sig.2-tailed=0.120) and grammar habits (Asymp.Sig.2-tailed=0.073). The students of A2 competence level gave a higher evaluation than the other students, which indicates that the lower course is suitable for A2 language learners and that the explanations are formulated clearly, too.

3.5 Students' self-evaluation in the field of their 21st century skills

Digital competence has been significant in the last decades and it is going to become even more important in the future. 'There is little doubt that a new digital era has dawned. Digital technologies are not only changing the way we learn and work but are also modifying social habits and the way we live our lives' (Cedefop, 2018, p. 20). The importance of digital competence will continue increasing in the future.
The research results indicate that the respondents acknowledged that while doing the tasks they were able to develop their digital competence. The students of Latvia admitted the same in their feedback: 'applying computer for learning', 'a different form of learning than paper', 'learn how to navigate and solve the quiz'. The students are likely to use the course in the future as well: 'This project is very creative and interesting. I think student can get enough knowledge via this project. It helps to improve IT skills also, not only English. Thank you!'
Contrary to the Latvian students, the Lithuanian IT students were able to identify certain drawbacks regarding the interface and technical issues, for example, 'too small boxes for answers', 'answer windows stretched', 'a few bugs with questions and answers', 'hit boxes for the items on the map are too small', 'two spaces to fill but one answer, combo boxes not very convenient, layout could be

better, one click after answering', 'didn't like the design, "next" button seems to return an error.' Thus, the students could demonstrate their knowledge gained during IT courses and find flaws in the learning platform under evaluation, which are important suggestions for improvement.

Other significant 21st century skills mentioned in various researches are complex problem-solving, team-working, communication skills, learning-to-learn, creativity (Cedefop, 2018, pp. 28-30; OECD, 2018, pp. 4-5; Mulder, 2016). The methodologies applied in the current project stimulate collaboration, team-working, and learning-to-learn which lies at the base of students' autonomous learning.

Although, as analysed above, the students gave an average evaluation to creativity of the project in the questionnaire, in their essays the Lithuanian students admitted that the course is 'useful, interesting and creative', 'interesting, amazing; one of the best platforms.'

The learners also admitted that they had acquired useful knowledge in their field: 140 students found case studies useful (67 students agreed and 73 students more agreed than disagreed with the statement), 115 students found face-to-face tasks useful (53 students agreed and 62 students more agreed than disagreed with the statement). They also admitted that they had learnt useful field related knowledge: 76% of students having done the A2/B1 course and 85% of students having done the B2/C1 English course agreed and more agreed than disagreed with the statement. The following quotations from the essays by the Lithuanian students validate the quantitative data:

- 'A good course, face-to-face tasks were new and refreshing.'
- 'Communication tasks are good, valuable and interesting information, but tasks could be more interesting.'
- 'Useful, there is an opportunity to know correct answers.'
- 'Many courses to choose from, courses divided according to language skill, I will use it.'

To sum up, the research results show that the methods and methodologies applied in the given interactive blended-learning courses have developed the students' language competence and have fostered the development of their digital competence, team-working and collaboration skills, problem-solving skills and learning-to-learn thus motivating them to become autonomous learners.

Conclusions

Students highly evaluated the learning platform and the courses created. They found the learning platform useful, visually appealing, interesting, interactive and creative, well-structured and it was easy for them to understand how to do the tasks and to understand their results.

Students acknowledged that the courses under investigation had enabled them to develop their knowledge of professional lexis, reading skills, grammar habits

and gain certain useful field knowledge. The B2/C1 English course enabled them to develop their listening skills as well. However, significant differences were discovered between the answers of local Latvian and Lithuanian students and international students. What is more, the B2/C1 English course got a slightly higher evaluation than the A2/B1 language courses. No significant differences were observed concerning the length of time of studying English, but the students' English language competence level had impacted the results.

The conducted summative evaluation research indicated the main strengths of the courses: the course flexibility, the usefulness and interactivity of the Moodle learning platform that may easily be adapted for various learning purposes and courses as well as different target groups, the development of students' problem-solving skills and collaboration skills through doing language tasks, preparing students for their future professional life.

The conducted research enabled to elicit the main flaws that have to be eliminated before making the course public: technical issues with the tasks, necessity to pay more attention to creativity issues and improving face-to-face tasks.

The pedagogy-based approach applied in the current research involving the creation of language courses based on the results of a detailed needs analysis of language teaching/learning goals in the specific context, selecting the most suitable methods and then defining the technological requirements for the on-line learning platform to be created, has been successful in the given case. It favoured the development of students' language competence, the relevant 21st century skills and according to their self-evaluation motivated them to become autonomous learners. It also helped students to acquire some specific subject-related knowledge, which is the dual aim of any LSP course - develop language competence and enhance students' field knowledge.

Acknowledgements

The current research has been conducted within the Framework of the Erasmus+ project 'Language skills and intercultural issues in the hospitality industry: Unity in diversity in the EU labour market', Project No.: 2016-1-HR01-KA202-022160, the project period 2016-2018. The project has been funded with the support from the European Commission. This publication reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

References

A European Roadmap for Linguistic Diversity: Towards a New Approach on Languages as Part of the European Agenda 2020. (2015). Retrieved from https://www.npld.eu/wp-content/uploads/2018/11/Roadmap-in-English.pdf

Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries. *OECD Education Working Papers, 41*. Paris: OECD Publishing. http://dx.doi.org/10.1787/218525261154

Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining twenty-first century skills. In P. Griffin, B. McGaw, & E. Care (Eds.), *Assessment and Teaching of 21st Century Skills* (pp. 17-66). Dordrecht: Springer. https://doi.org/10.1007/978-94-007-2324-5_2

Bueno-Alastuey, M. C., & López Pérez, M. V. (2014). Evaluation of a blended learning language course: Students' perceptions of appropriateness for the development of skills and language areas. *Computer Assisted Language Learning, 27*(6), 509-527. https://doi.org/10.1080/09588221.2013.770037

Care, E., & Anderson, K. (2016). *How Education Systems Approach Breadth of Skills. Skills for a Changing World*. Brookings: Centre for Universal Education.

Cedefop. (2016). *Future Skill Needs in Europe: Critical Labour Force Trends*. *Cedefop research paper; No.59*. Luxembourg: Publications Office.

Cedefop. (2018). *Insights into Skill Shortages and Skill Mismatch: Learning from Cedefop's European Skills and Jobs Survey*. *Cedefop reference series 106.* Luxembourg: Publications Office of the European Union. Retrieved from http://www.cedefop.europa.eu/en/publications-and-resources/publications/3075

Chu, S. K. W., Reynolds, R. B. Tavares, N. J., Notari, M., & Lee, C. W. Y. (2017). *21st Century Skills Development Through Inquiry-Based Learning. From Theory to Practice*. Singapore: Springer. https://doi.org/10.1007/978-981-10-2481-8

Donina, A., & Luka, I. (2014). The compliance of tourism education with industry needs in Latvia. *EJTHR Tourism Research, 5*(3), 91-120.

enGauge 21st century skills. (2003). *Literacy in the Digital Age*. Retrieved from http://pict.sdsu.edu/engauge21st.pdf

European Commission. (2015). *New Priorities for European Cooperation in Education and Training*. Retrieved from http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0408&from=EN

Eurostat. (2018). *Foreign Language Skills statistics*. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php/Foreign_language_skills_statistics#Number_of_foreign_languages_known

Fawcett, B., & Pockett, R. (2015). *Turning Ideas into Research. Theory, Design & Practice*. LA: SAGE.

Fischer, J., Casey, E., Abrantes, A. M., Gigl, E., & Lešnik, M. (2008). *LCaS – Language Case Studies. Teacher Training Modules on the Use of Case Studies in Language Teaching at Secondary and University Level. A handbook*. Graz: European Centre for Modern Languages/Council of Europe.

Grigsby, Y., Theard-Griggs, C., & Lilly, C. (2015). (Re)Claiming voices: Digital storytelling and second language learners. *Acta Technologica Dubnicae, 5*(1), 60-67. https://doi.org/10.1515/atd-2015-0034

Heinze, A., & Procter, C. (2004). Reflections on the use of blended learning. In *Education in a Changing Environmen*t. UK: University of Salford.

Kaya, H. (2015). Blending technology with constructivism: Implications for an ELT classroom. *Teaching English with Technology, 15*(1), 3-13.

Krashen, S. (1989). We acquire vocabulary and spelling by reading: Additional evidence for the input hypothesis. *Modern Language Journal, 31*(1), 440-464. Retrieved from http://www.jstor.org/stable/326879

Laborda, J. G. (2009). Using webquests for oral communication in English as a foreign language for tourism studies. *Journal of Educational Technology & Society, 12*(1), 258-270.

Laborda, J. G., & Litzler, M. F. (2015). Current perspectives in teaching English for Specific Purposes. *ONOMÁZEIN, 31*, 38-51.

Languages4all.eu. (2016). The project webpage. Retrieved from http://languages4all.eu/

Lu, F.-C., & Chang, B. (2016). Role-play game-enhanced English for a Specific-Purpose vocabulary-acquisition framework. *Journal of Educational Technology & Society, 19*(2), 367-377.

Luka, I. (2016). Developing language competence for tourism students and employees in a blended learning language course. *Society. Integration. Education, I*, 137-157.

Luka, I. (2018). Summative evaluation of online language learning course efficiency for students studying tourism and hospitality management. *Quality Assurance in Education, (26)*4, 446-465. https://doi.org/10.1108/QAE-04-2018-0051

Marcinkonienė, R., & Zdanytė, J. (2015). Screen vs paper in foreign language learning. *Research Journal Studies about Languages. Kalbu Studijos, 27*, 106-114. http://dx.doi.org/10.5755/j01.sal.0.27.13748

Marope, P. T. M. (2014). Learning and competences for the 21st century. *Prospects, 44*(4), 483-486. https://doi.org/10.1007/s11125-014-9333

Millar, M., & Park, S.-Y. (2013). Sustainability in hospitality education: The industry's perspective and implications for curriculum. *Journal of Hospitality & Tourism Education, 25*(2), 80-88.

Mulder, M. (2016). *Competence for the unknown future*. ASEM Conference, Copenhagen, Denmark, October 5, 2016. Retrieved from

http://asemlllhub.org/fileadmin/www.asem.au.dk/CPH_Workshop_speakers/Presenation_Martin_Mulder.pdf

O'Leary, Z. (2010). *The Essential Guide to Doing Your Research Project*. LA: SAGE.

OECD. (2018). *The Future of Education and Skills 2030*. Retrieved from http://www.oecd.org/education/2030/oecd-education-2030-position-paper.pdf

Olejarczuk, E. (2014). The e-learning component of a blended learning course. *Teaching English with Technology, 14*(3), 58-68.

Queensland Curriculum & Assessment Authority. (2015). *21st Century Skills for Senior Education. An Analysis of Educational Trends*. Retrieved from https://www.qcaa.qld.edu.au/downloads/publications/paper_snr_21c_skills.pdf

Ryabchikova, K. (2018). Development of intercultural competence during pedagogical practice of Ukrainian students in vocational schools in slovakia. *Acta Educationis Generalis, 8*(3), 109-117. https://doi.org/10.2478/atd-2018-0020

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (5th edition). Harlow: Pearson Education Ltd.

Saunders, V., & Zuzel, K. (2010). Evaluating employability skills: Employer and student perceptions. *Bioscience Education, 15*(1), 1-15. https://doi.org/10.3108/beej.15.2

Schmitt, N. (2000). *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.

Scott, C. L. (2015). *The Futures of Learning 2: What Kind of Learning for the 21st Century?* Paris: UNESCO Education Research and Foresight.

Silva, S. (2009). Measuring skills for 21st-century learning. *Phi Delta Kappa, 90*(09), 630-634. https://doi.org/10.1177/003172170909000905

Simándi, S. (2017). Study circles in online learning environment in the spirit of learning-centered approach. *Acta Educationis Generalis, 7*(2), 96-104. https://doi.org/10.1515/atd-2017-0017

Sós, T. (2018). The interrelations of competency expectations in connection with career-starter skilled workers in the counties of Northern Hungary. *Acta Educationis Generalis, 8*(2), 54-62. https://doi.org/10.2478/atd-2018-0011

Stone, G., & Ineson, E. (2015). Introduction. In E. Ineson, M. Smith, & V. Nita (Eds.), *International Case Studies for Hospitality, Tourism and Event Management Students and Trainees* (pp. xv-xvi). 6. Iasi: Tehnopress.

Suto, I. (2013). 21st century skills: Ancient, ubiquitous, enigmatic? *Research Matters: A Cambridge Assessment publication, 15*, 2-18. Retrieved from http://www.cambridgeassessment.org.uk/Images/467763-21st-century-skills-ancient-ubiquitous-enigmatic-.pdf

Szobiová, E. (2015). Creativity in organizational environment. *Acta Technologica Dubnicae, 5*(2), 69-79. https://doi.org/10.1515/atd-2015-0065

The glossary of education reform. (2016). *21st Century Skills*. Retrieved from https://www.edglossary.org/21st-century-skills/

Tomlinson, B. (2003). Materials evaluation. In B. Tomlinson (Ed.), *Developing Materials for Language Teaching* (pp. 16-36). London: Continuum.

Tuomaitė, V., & Zajankauskaitė, Z. (2017). Oral communication in a foreign language competence development in academic contexts. *Research Journal Studies about Languages. Kalbu Studijos, 31*, 113-129. http://dx.doi.org/10.5755/j01.sal.0.31.19049

Walliman, N. (2016). *Social Research Methods*. LA: SAGE.

Wang, Y-F., & Tsai, C.-T. (2014). Employability of hospitality graduates: Student and industry perspectives. *Journal of Hospitality & Tourism Education, 26*(3), 125-135.

World Economic Forum. (2015). *New Vision for Education*. Geneva. Retrieved from http://www3.weforum.org/docs/WEFUSA_NewVisionforEducation_Report2015.pdf

Yang, F.-C. O., & Wu, W.-C. V. (2015). Using mixed-modality learning strategies via e-learning for second language vocabulary acquisition. *Educational Technology & Society, 18*(3), 309-322.

sciendo

Acta Educationis Generalis
volume 9, 2019, issue 2

DOI: 10.2478/atd-2019-0007

Moral Reciprocity, Ethics of Appropriation of Indigenous Medicinal Plant Knowledge and Associated Biopiracy

Oscar Agbor Ambang – Sergio Alloggio – Roman Tandlich*

Received: March 8, 2019; received in revised form: May 31, 2019;
accepted: June 3, 2019

Abstract:
Introduction: Although this paper deals mostly with the positive effects of a posthumanist worldview on environmental sustainability, partnership, or moral accountability in science and scientific research, it also promotes a new understanding of our educational practice in higher education. The ideas espoused have the ability to inspire educators at all levels to show students, future researchers or other professions about the importance of a progressive, holistic approach to our environment. We claim that being sensitive and caring for our environment is not only part of our moral and ethical responsibility, it is an inseparable aspect of our environmental education, our environmental intelligence. This paper discusses posthumanist[1] reciprocity ethics in the context of traditional knowledge (TK) and the protection of indigenous traditional knowledge from commercial exploitation.
Methods: Instances of unethical bioprospecting and biopiracy were common throughout the turn of the 21st century and are discussed using cases in countries such as Cameroon, India, South Africa and Australia, where medicinal plant species were, are still a highly sought-after source of potent, pharmacologically active phytochemicals.
Results and discussion: The observed increase in regulations against bioprospecting on indigenous land in these countries as a result of intellectual property monopoly by big pharmaceutical companies is discussed in this paper along the lines of a 'humanist vs posthumanist' ontology. Patent exclusivity laws have historically marginalized the proprietary owners of indigenous traditional knowledge, creating a moral

* Oscar Agbor Ambang, Rhodes University, Faculty of Pharmacy, Grahamstown, South Africa; g13a5774@campus.ru.ac.za
Sergio Alloggio, Independent Researcher, South Africa; s_alloggio@hotmail.com
Roman Tandlich, Rhodes University, Faculty of Pharmacy, Grahamstown, South Africa; r.tandlich@ru.ac.za

[1] Posthumanism is a new approach in contemporary philosophy that deconstructs some of the most fundamental assumptions of modern Western culture, its ontology, epistemology and ethics. It is a critical approach that aims at understanding the role of the human subject in relation to both the natural world and knowledge-production practice, and how that relationship plays out into socio-cultural and socio-political spheres of society.

and ethical rift between those that seek to exploit this knowledge commercially and those from whom the knowledge originally comes from. This disconnection from nature and natural resources due to a humanistic approach[2] to growth and development, often leads to environmental exploitation, exploitation of indigenous people and unsustainable commercial practices. Existing research and bioprospecting ethics that are practiced on indigenous lands must be questioned in their ability to provide mutually beneficial outcomes for all stakeholders.

Conclusions: The posthumanist approach to morality and research ethics is discussed in this paper as a possible and practical alternative to humanism along with the potential for posthumanist ethics to be a tool to shape legal frameworks and the policies that protect at-risk communities and their respective natural environments. Our current developmental trajectory as a collective species has us blurring the lines that separate the 'human' from the 'non-human' elements in our world as humanity grows towards a more technologically advanced but equally environmentally dependent people. Thus, the currently existing systems of ethics that govern the relationship between the 'human' and 'non-human' must be called into question. This paper aims to illustrate the positive effects of a posthumanist worldview on issues such as environmental sustainability, partnership, moral accountability and reciprocity ethics in the context of modern science and modern scientific research.

Key words: moral reciprocity, ethics, biopiracy.

Introduction

Morals and ethics are two words that are often used synonymously yet refer to slightly different facets of distinguishing "right" from "wrong." Most people think of morals as a personal or normative perception while ethics encompass a more broadly applicable set of ideals that are to a degree enforced in certain shared spaces. Ethical codes that are followed in these shared spaces require the establishment of a governing body that provides oversight and regulation and can keep members of said space accountable to one another (Nortjé & Hoffmann, 2015). Ultimately, perceptions are really what distinguish morals from ethics. A good example is the perceptions surrounding polygamy. A community may consider polygamy immoral (as in a matter relating to morality) and individuals may agree with the notion or polygamy may not be a matter strongly contested in a community (as far as communal ethics are concerned), yet an individual or individuals might consider it immoral (Encyclopedia

[2] Humanism is here understood as a philosophical school of thought that advocates progressive and critical thinking but tolerates no epistemic space for extrahuman beliefs: the human (cap)ability is the only candidate to lead an ethical life. However, humanistic approaches place human beings at the centre of every research practice, thus discriminating against non-human entities in nature like animals and natural resources.

Britannica, 2018). As such the distinction in this case matters and the question becomes a matter of the subject being discussed i.e., the community or the individual. In the latter instance, the individual's morality is in contradiction of the ethics of the community, so the subject of polygamy becomes a question of "who's ethics?" This ethical conflict is a complex one where the individual may feel compelled to have certain stances on certain issues due to personal convictions and wish to follow their own moral compass despite the larger community having already established ethico-political norms and values that pressure individuals to conforming and also shape its legal atmosphere and that of the individuals in it (Alexander & Moore, 2016).

This argument has long been the topic of philosophical debate in an argument that fundamentally can be reduced down to a debate of normative ethics-a field of philosophy concerned with the study of ethics relating to an individual's duty to a larger community versus their free will and independent agency. It is an age-old philosophical dilemma best described as a Deontological versus Consequentialist (Utilitarian) conflict. Consequentialism is the ethical stance which determines whether an action is good or bad solely based on the consequential effects said action has on the world (Alexander & Moore, 2016). As such, the greatest good is achieved via actions that have a net positive effect on the world or by those actions which bring about the "Greatest Happiness". The "Greatest Happiness Principle", put forward by British philosopher John Stuart Mill, is a moral view based on the idea of utility. This moral view holds the position that happiness is the benchmark for establishing what is moral or immoral irrespective of the motivations of the actions or how happiness is achieved; in other words, the ends justify the means. Utilitarianism is the most commonly practiced and the most elementary form of consequentialism due to its binary approach to moral problems. Utilitarianism not only claims that the only desirable and valued consequence of any action is happiness but also that the only undesirable or disvalued consequence of an action is pain (Nahra, 2014).

Deontological ethics is seen as the antithesis to consequential ethics in that deontology concerns itself with the nature of an action and not simply the outcome (Korsgaard, 2004). Made famous by German philosopher Immanuel Kant, deontological principles are rooted in the assumption that moral judgement is contained in the action alone and the consequences do not hold any significance (Mandal, Ponnambath, & Parija, 2016). Kant proposed two main 'absolute' moral laws or 'maxims' known as the 'categorical imperatives' which are based on the idea that morality is ultimately derived from rationality and all moral judgements have rational foundations that apply objectively to every individual. Kant's first maxim states "Act only on maxims that you can simultaneously will to become a universal law." This means that the true meaning of moral positions are not based on particular, contingent conditions including the identity of the particular individual making said decisions

(Alexander & Moore, 2016). For example, if one were to perform a certain bad action and it became such that everyone else did the same action, for the same reasons, then it is not morally justifiable for the individual to desire 'special treatment' or be upset by notion that others would do the same. This maxim specifies that all actions must have universality as their general premise i.e., one should only perform an action if they are content with every other individual on Earth doing the same action all the time (Korsgaard, 2004).

The second maxim is a direct contradiction to utilitarian ethics in that it recognizes human beings as an end rather than a means to an end (Three Minute Philosophy: Immanuel Kant, 2009). It states "Act so that you treat humanity, whether in your own person or in that of another, always as an end and never as a mere means" (Alexander & Moore, 2016). This means that the manipulation of individuals to achieve an end or achieving a goal at the expense of another individual is morally bad and violates the universal dignity of every human being. It is absolute in the sense that it is not conditional to any contingent aspect of life and applies to the most basic scenarios or situations, for example, lying (for any reason or under any circumstances) is immoral according to Kantian deontology (Three Minute Philosophy: Immanuel Kant, 2009).

Similarly, clinical practice often requires guiding from medical normative ethics and it is largely concerned with the deontological versus consequentialist philosophy in as far as how the obligations, duties and decisions of medical professionals may affect potential patient outcomes and considers all of the associated consequences of said decisions (Mandal, Ponnambath, & Parija, 2016). It has long been argued that the bedrock of biomedical ethics is grounded in its four critical principles, namely autonomy, beneficence, nonmaleficence and justice - an approach to medical practice known as Principlism (Gillon, 1994). Popularized by medical ethicist Raanan Gillon in the 1970s, these principles form common themes in the ethical guidelines of many health care professions around the world and also, in South Africa (Ramdas, 2017; World Medical Association, 2019). However, in clinical practice, the implementation of these principles is challenging because of the glaring inconsistencies that it presents in cross-cultural contexts (Azétsop & Rennie, 2010).

1 Principlism and principle oriented medical ethics

1.1 Non-maleficence

Non-maleficence operates on the dictum "First do no harm", a notion which is seemingly obvious in a profession that is dedicated to ameliorating illness, but the complications arise when one has to consider what philosophical doctrine to adopt when defining the word "harm". A consequentialist approach would see harm as that which prevents good from occurring or that which leads to less good while on the other hand a deontological ethical view would be to view

harm as those actions which prevents one from carrying out one's duty. In clinical settings, the controversy as to what constitutes harm can vary depending on moral stances. Since much of healthcare involves pain, discomfort, disfigurement or even disability in the case of amputation or skin graft, for example, harm becomes less absolute and more so a circumstantial event. Does the treatment for a severely infected limb justify the disfigurement and disability one would experience from amputation? Do the ends justify the means? Taking a consequentialist ethical stance, the greatest utility/greatest good would come from accepting the dismemberment as part of the cost of a greater treatment (Morrison & Furlong, 2009).

1.2 Autonomy

The idea of autonomy is deeply significant in medical practice and associated medical ethics. Autonomy involves total sovereignty when it comes to choices and decisions. Autonomy in a medical context can be explored using Kant's second maxim; the notion that suggests one must treat people as ends and not just means to an end. The idea of autonomy becomes a matter of controversial debate when one considers the effects of an individual autonomous medical/health decisions on the greater community. An example of this would be the choice to vaccinate oneself/one's children. According to Le Blanc (2009), in instances where an individual believes that vaccination/immunization is a violation of their religious/spiritual beliefs (or for any other reason), they resort, by default, to relying on herd immunity to prevent the occurrence of an outbreak. It's worth mentioning that many of the beneficiaries of herd immunity are not necessarily opposed to the idea of being vaccinated but are unable to do so due to circumstances such as pregnancy or immunocompromisation. Addressing the issue of herd immunity on Kantian ethical lines shows us that "Anti-vaxxers"- a term used to describe persons who are opposed to vaccination- are in violation of the second Kantian maxim because they are using the community as a "pseudo-vaccine" without its prior consent or approval. In essence, the community is non-consentingly being used as a means to an end and not being recognized as an end itself; a direct impingement to Kant's categorical imperatives. Kantian deontology greatly emphasizes moral duty over the consequences of actions, which in the context of immunization, can be interpreted as a moral duty of every individual to ensure their own immunization and that of those closest to them (Le Blanc, 2009). According to a utilitarian ontology, the consequences of non-immunization are an increased risk of an outbreak and a heavy dependence on those who are vaccinated to provide protection (Nahra, 2014). This does not serve the greater good of the community but only the perceived good of the individual and according to Kantian consequentialism, this is morally bad (Nahra, 2014). The opposite is true for those individuals who ascribe to vaccination because they acknowledge the personal benefit of immunization as

well as the greater effect it has on the community in provide herd immunity (Le Blanc, 2009).

1.3 Beneficence

According to Beauchamp's (2016) definition, beneficence is any altruistic action that connotes a merciful deed, act of kindness or philanthropy such as charitable donations to medical research, scholarships for community education and animal welfare, to name a few. The principles of beneficence can be traced to a moral obligation to act in the best interests of others and aiding them in their pursuit of their own fulfillment and self-actualization. From a utilitarian ethical stance, which ascribes to the Greatest Happiness Principle is a fundamental requisite for morality, an action is morally just if it leads to the maximum beneficial outcome or to the least possible adverse outcome. That is to say beneficence is fundamental to the moral satisfaction of this ethical doctrine. Utilitarianism holds other values such as duty, obligation or rights as subordinate to those actions which maximize benefit or minimize harmful outcomes. Utility, as discussed by many utilitarians, is an absolute principle which means beneficence, in this context, is understood as the only ethical principle of significance because it focuses on the provision of maximum benefit (Beauchamp, 2016).

From a Kantian deontological perspective, beneficence has a place in ethical conversations only if the motives behind the action are not driven by sentiment but by a sense of duty. Kantian ethics argues that beneficence is a moral obligation applicable to all persons and that individuals must do so in a manner that is in accordance with their capacity to be benevolent all the while being void of the expectation of recompense. The ideology of providing benefit to an individual out of a sense of duty is a central concept to the nature of medicinal practice and is intrinsic to the moral conviction of the modern professional physician. It is argued that if medicine is about providing healing then professional healthcare services are fundamentally a beneficent undertaking and have no other purpose outside of ameliorating illnesses. This is however not always the case when one considers a situation where a medical procedure is not necessarily life threatening nor focused on healing per say, but still to the benefit of a patient. For example, when surgeons perform cosmetic/aesthetic surgery (as opposed to reconstructive surgery), or an endocrinologist providing fertility therapy or even in the instance of assisted death requested by a patient with a terminal diagnosis; these medical interventions are still in the interest of the patient and provide them with a 'benefit' subjective to their particular desires and wills (Beauchamp, 2016). The question then is- if it is the duty of a healthcare professional to comply with a patient's request for accelerated death for example, are they acting in a beneficent manner despite death being a natural opposite to health/healing, which is fundamental to beneficent medical therapy? The discussion is thus a matter of what counts as a 'medical practice' and what

constitutes medical beneficence: Where is the line between beneficence and paternalism?

1.4 Justice

The issues of justice were dealt with by Azétsop and Rennie (2010) They define justice as a critical concept when discussing the implications of various virtue ethics in clinical and research settings. Contemporary ideas of biomedical justice rely on the concept of autonomy-centred healthcare which primarily focuses on patient rights, rules of informed consent and rules of refusal and patient confidentiality as part of a field of medical philosophy known as autonomy-based bioethics. The criticism of this largely adopted ethical stance is that it is incapable holding consistency in economically poor countries where health and health accessibility are closely connected to socio-economic position and access to resources. The agency and autonomy that is core to contemporary biomedical ethics is deeply related to the commoditization of medicine and commercialization of healthcare especially in developed countries. This trend has changed the patient-physician relationship to one that is more akin to a client-service provider relationship in that it has become less paternal and more respectful/acknowledging of the affluence and power at the disposal of many patients who can afford to pay for the services. Access to resources, literacy and health education contribute greatly to the effect of a patient's autonomy in clinical scenarios in that they are able to rationally weigh their treatment options, which may agree or disagree with the advice of the healthcare professional and also be in a position to pay for the services they require (Azétsop & Rennie, 2010).

In economically poor countries, community members face different challenges when seeking healthcare services largely due to financial constraints. Going to see a physician places a large financial burden on members of a family who earn an income especially if the patient is a source of income for the family. The expectation is for the patient to receive mediation or a medical procedure so they can return to work to provide for dependents because time spent in hospital or in recovery at home translates to no work and thus impinges the income of the family. These patients struggle to afford the adequate nutrition and dietary supplementation necessary for proper recovery among all the other medical challenges their circumstances present them and are, thus, not in a position to demand the same healthcare services and express the same autonomy at the disposal members of more socioeconomically affluent countries and communities (Azétsop & Rennie, 2010).

Therefore, there are limitations to the normative biomedical ethics surrounding autonomy in that they cater more towards the autonomy of the patient and often take advantage of this autonomy in the forms practice that insulate professionals from accusation, malpractice and legal repercussion (a barrier to patient justice itself). The ethical paradigm should then adopt a broader, more inclusive

understanding of the determinants of health and wellbeing especially those that involve socioeconomic inequality and access to resources in order to formulate and dispense comprehensive and informed judicial decisions (Azétsop & Rennie, 2010).

1.5 Normative ethics in professional healthcare

Many countries have ethical guidelines that regulate professional conduct in the healthcare sector and these councils often do so by reference to ethical guidelines that umbrella all those who fall under their prescribed health professions (Fanzo, 2015). South Africa has the Health Professions Council of South Africa (HPCSA) which, in its description of their guiding principles cites the necessity for both an ethical approach to treating patients, "[...sound commitment to ethical practices…]" and also a good moral compass "[...the practice of healthcare is a moral enterprise]" (Hpcsa.co.za, 2016). So both morals and ethics play integral roles in delivering the best possible treatment to those in need and are there to guide health practitioners through difficult real-life instances of moral and ethical dilemma which are commonplace in healthcare systems. Many healthcare guidelines have Gillon's four ethical principles as common parameters for good ethical conduct and have additional principles which in some way hold the wellbeing of the patient in highest regard and cater towards patient protection and ethical treatment. The HPCSA stipulates 13 core ethical values that all professionals must cater to, all of which stem from universally desirable moral values. Revered values such as compassions, respect for persons, value of life and self-reflection are common themes observed in these guidelines (Hpcsa.co.za, 2016). These values in some way or other correlate to a positive patient outcome:

1. Respect for persons: Every individual has the common desire to be treated with dignity and respect. The value of life and desired individual health is common ground for both the patient and health practitioner and thus in the clinical setting both parties should show mutual respect for one another.
2. Non-maleficence: The health practitioner should have the patients' best interest at heart to carry out the best course of treatment for their ailment. The intent to harm (maleficence) could directly relate to negative and undesirable patient outcomes.
3. Beneficence: The idea on beneficence is a posthumanist one that values the experiences and interest of the patient above that of the self (the caregiver). The healthcare practitioner must set aside their own personal biases and sentiments which may conflict with that of the patient.
4. Human rights: The practitioner should acknowledge the basic human right to health, freedom of choice, freedom to express opinion and other rights that are fundamental to the human dignity.

5. Autonomy: This value, similar to human rights, involves the health practitioner recognizing and honoring the desires of the patient to self-determination and to live their lives by their own values and beliefs.
6. Integrity: Integrity of the patient should be upheld throughout their interaction with their caregiver. Their dignity must not be compromised as result of a desired outcome.
7. Truthfulness: The health practitioner must be transparent and sincere in their approach to caregiving. The best course of action to treat a patient can only be carried out once all the facts have been truthfully and accurately presented.
8. Confidentiality: confidential patient information must be kept private in patient -caregiver relationships unless legally or in some cases morally obligated to disclose said information.
9. Compassion: Health practitioners should be sensitive to patient conditions and should aim to develop empathy for ailment. This compassion could lead to a greater appreciation for life and a better approach to delivering healthcare. This approach will lead to better patient outcomes.
10. Tolerance: The rights of patients who may have different ethical beliefs to those of the health practitioner must be recognized and respected regardless of moral, cultural or religious convictions.
11. Justice: The impartial and just treatment of all patients with equal attention and just resource allocation should be the approach to caregiving.
12. Professional competence and self-development: Healthcare practitioners should seek to improve their skills and knowledge based on the growing global pool of medical information.
13. Community: Health practitioners should strive to make contributions to society by channeling their professional skills to tackle the issues communities face at basic levels. Information regarding personal and communal hygiene, water management, information about maternal/infant nutrition to name a few, can be provided to the community by health care practitioners who are equipped in their respective fields (Hpcsa.co.za, 2016).

In addition to this, specific healthcare professions will commonly have a board that regulate the specific conduct and responsibilities of various levels of personnel in that particular field of healthcare such as clinical nutrition (Hpcsa.co.za, 2018). For example, dietitians in South Africa are governed by the Professional Board for Dietetics which provides general rules and regulation for all practitioners and also specifies the scopes of practice of various specialists in the field (Professional Board of Dietetics, 2006). Similarly, the pharmacy profession has the South African Pharmacy Council (SAPC) as the self-regulating administrative body of the profession with its own specifications and scopes of practice for various levels of pharmacy professional

(Pharmcouncil.co.za, 2011). These professionals are bound to a code of professional conduct which has the same core moral and ethical values as those set out by the HPCSA but also give provisions for the various legislation that are implicated in the pharmacy profession in the form of a compendium of laws. Also, seeing as how healthcare, ultimately, is a service to the general public (the customer), it is accountable to customer protections laws outlined in South African legislation (Pharmcouncil.co.za, 2011). The pharmacist code of conduct gives provisions for 12 principles in their code of conduct and each these codes of conduct are stipulated by the Pharmacy Act and they relate to one or more of the twelve ethical values outlines by the overarching HPCSA (South African Pharmacy Council, 2008):

i. Wellbeing of the patient: The intentions of the pharmacist must be to improve the condition of those under their care. The health, wellbeing, dignity and safety of the patient and general public must be paramount. Ethically this implies that the pharmacist must be beneficent, non-maleficent, compassionate and just in their actions when carrying out professional responsibilities.
ii. Honour and dignity of the profession: A pharmacist must maintain a standard of behavior within and outside of the professional practice and avoid instances that may bring the profession into disrepute. A pharmacist must employ their professional competence and skill set to gain positive outcomes for the patient(s) and the greater community to which they belong/practice in. The ethical values of community and professional self-development are implicated in this code of conduct.
iii. Confidentiality: A pharmacist must never abuse the position of power over a patient but must respect a patient's rights, dignity, autonomy and entitlement to confidential information except under prescribed conditions.
iv. Continuing professional development (CPD): This relates to the ethical code of professional competence and self-development where self-awareness in professional situations or otherwise are encouraged. Pharmacist must keep abreast of the progress of knowledge development.
v. Cooperation with other health professionals: A pharmacist must cooperate with professionals of other field to explore better more catered options of treatment and to maximize the positive outcomes for a patient.
vi. Professional independence: A pharmacist must strictly observe and adhere to the guiding principles in the code of conduct and must not act or let anyone on their behalf, do anything which would constitute a breach of this code of conduct or impairs their ability to carry out their professional duties. The integrity for persons and that of the profession must be considered simultaneously. This includes accepting bribes, favorable treatment or giving partial treatment to specific patient in return for personal compensation, financial or otherwise.

vii. Advertising: Pharmacies and their personnel should refrain from advertising with direct or indirect implications of superiority over other services provided by other pharmacies or pharmacists. Advertising must be dignified and must not bring the profession into disrepute.
viii. Professional appearance and nature of pharmacy: These principles relate to the professional and aesthetics of the pharmacy in that they comply with good pharmacy practice (GPP) standards which are a reflection of the professional character of the pharmacy as provided by the Pharmacy Act.
ix. Control over medicine: A pharmacist must execute proper control over all medicines and related substances which may be obtained from their pharmacy and must additionally be held accountable for misuse or abuse of medicines on the part of the pharmacist/pharmacy personnel.
x. Chemical sold/provided in a pharmacy: Similar to the 'control of medicines' guideline, this stipulates that pharmacists must take measures to ensure that all chemical supplied from the pharmacy will be used for the proper intended purpose in the appropriate circumstances i.e. must exhibit control over all substances in the pharmacy.
xi. Dual registration: Registering with more than one statutory health council is allowed granted that the pharmacist complies with the ethical rules and codes of conduct of each of the respective registered professions they are affiliated to.
xii. Use of trading titles, brand names and logos: It is up to the pharmacist to ensure that all trading/advertising titles are in compliance with standards approved by the Pharmacy Council of South Africa (South African Pharmacy Council, 2008).

There is thus similarity in the core ethical principles in the various fields of medicine and healthcare that aim to serve as a guideline through challenging ethical conundrums. Gillon's Principlism is also observed to be a commonly used theme used to formulate biomedical ethical guidelines with various additional principles that give provisions for particularities of each profession. Normative ethics plays a role in the formulation of these ethical guidelines in that normative ethics stipulates what 'ought' to be done in morally conflicting situations that arise in clinical practice.

2 Culture and societal ethics

Human beings as a species are unique creatures in that we are the only species on the planet that does not interact with the world organically as far as experiencing reality goes i.e. unadulterated by perception. Microorganisms for example all interact with their environment in a manner that is simple and rudimentary. All interactions with the environment are natural and involve no alterations of perception to meet a desired means of experiencing their reality

nor are they observed to do so in order to carry out biological functions that are necessary for their survival. Human beings on the other hand experience reality not only through organic/natural interaction with their environment but for the vast majority our interactions are guided by perceptions which are informed by culture (Draaisma, 2017). 'Culture' is an anthropological term that is used to encompass all the facets of the human experience that extends beyond physical/rudimentary interaction we have with our world. Culture is the evidence that humans are able to acknowledge themselves beyond the basic biological level in that culture is what bridges our biological/genetic nature to what we as humans require for nurture (McIntosh, 2018). The very fact that human beings observe and adhere to cultural phenomenon is evidence of an appreciation and acknowledgement for relationships between individuals within a culture (i.e the humans elements of a culture) and the non-human/ material elements of culture such as cultural symbolism, language, norms and morals (McIntosh, 2018). As mentioned previously, higher organisms such as human beings interact with their environment, in majority, by perception as opposed to the rudimentary biological interactions observed between microbiological life and their respective environments. For human beings, culture is the tool that shapes our perceptions of life, the environment and our perceptions of other individuals both inside and outside a particular culture and ultimately they inform how we experience reality (McIntosh, 2018). It must be however noted that the idea of 'culture' is not solely a human phenomenon as it can be argued that other animals such as lions for instance, possess a 'culture' that can be seen to include gender roles, hierarchy, elements of communal maternity etc (Burger, 2009). The difference with human being is that we are a single species that displays multiculturalisms across the globe, while it is argued that other animals such as lions have a monolith-like culture regardless of where they exist, in this sense lions are expected to be culturally identical everywhere (Laland & Hoppitt, 2003; Burger, 2009).

As mentioned above with the example of polygamy, determining how it is perceived in a community, polygamy may or may not be deemed immoral, depending on the culture of the person(s) holding views on the matter (Nortjé & Hoffmann, 2015). Thus, when dealing with matters that are of ethical and/or moral origin which, ultimately, translate to certain behaviors or biases, it must be kept in mind that human beings rely heavily on their preconceived notions of their society, preconceived notions that are a direct result of the social culture (Draaisma, 2017). This is evident in the way societies have been built across the world throughout history. For a society to function, all members must abide by minimum standards that are set out by overseeing/administrative bodies such as a set of laws that each member must be held accountable to (Knapp et al., 2007). The question of 'whose culture?' and 'whose ethics?' is pivotal when society forms its legal framework. Both laws and ethics provide guidelines that take into account the context for what is and what is not allowed in a certain

society/setting (Visser & Van Zyl IV, 2016). The ideals of laws provide the people a platform to benefit from being members of a regulated society (Knapp et al., 2007). The law tries to create an enforceable fundamental standard for a community to progress positively and have equal opportunities to do so while morals and ethics aim to improve a person at an individual level (Visser & Van Zyl IV, 2016).

The difference between societal ethics and the legal framework is the jurisdiction of the administrative body to enforce these rules and regulations and the consequences associated with deviations from norms (Visser & Van Zyl IV, 2016). Transgressing ethical standards of a society for the majority, does not have legal implications such as incarceration or a fine but can have an impact on the way society judges the individual's morality and can impose 'social sanctions' on said person(s) (Knapp et al., 2007). Going back to the example of polygamy, the practice of multiple partnerships is legal in South Africa under the Recognition of Customary Marriages Act (Act no. 120 of 1998) ('RCMA') where customs such as polygamous marriages are recognized as legal under the law. However, there may be individuals within South African society that hold a different worldview and have a varying stance to the law on the ethics of multiple partnerships and may thus deem it unethical. That said, South Africa is a democratic country that allows for a democratic plurality which encompasses all its diversity. Pluralism is the political philosophy that allows for power within a society to be distributed between its various social/cultural groups (Kozhikode & Li, 2012). This empowerment takes the form of equal rights, equal protections under the constitution, and strives for equal opportunity for all its constituents (Jahanbegloo & Parekh, 2011). With such large cultural diversity in a population it is challenging to provide a set of legislation founded on a common fundamental set of morals and ethics that can apply to every socio-cultural group in the country (Rosenberg, 2001). This makes identifying and addressing transgressions of the law difficult as certain practices in one cultural group may not be permissible in another and vice-versa.

In the example of polygamy, the custom is common among many members of several Islamic communities, the Zulu community, the Sotho community and many others in South Africa. Thus, the laws, and their intricate dissemination into daily life, cannot be adjudicated in the same manner as those cultures that do not subscribe to polygamous relationships (Rosenberg, 2001). South Africa resolves this conflict by implementing customary law which allow for multiple parties to enter a marriage (often two or more women to a man) (Musgrave, 2016). Former South African president Jacob Zuma is married to four women and King Mswati III of Swaziland who is married to 14 women are some examples of the plurality of morals and cultures that are accommodated within certain societies and also illustrates the degree of inclusivity of certain controversial customs such as polygamy into the social fabric of countries like South Africa (Musgrave, 2016). Thus, the way in which societal ethics and the

legal framework interplay in a culturally plural society is very intricate and sensitive as the consideration for all members of all societies must be obligatory (Yumatle, 2016).

The RCMA was designed to protect women in a cultural setting that, for the vast majority, only benefits men. Dissecting the morals of polygamy uncovers a more subtle power imbalance between men and women with the scale being tipped in favor of men with the female member(s) of the polygamous group often being marginalized or exploited. In the same way, a company that benefits from traditional knowledge benefits from it individualistically, without the continued benefit being felt by the community. Therefore, community knowledge, which can be argued to be customary, must be considered for protection by similar customary laws to ensure their continued development and protection from commercial exploitation. It is arguable that the only way we ethically engage with communities is through a framework which ensures mutual ethical and mutually beneficial reciprocity practices.

Intellectual Property (IP) disputes dealing with TK are often, at their core, a matter of legitimacy. Both parties have the goal of achieving product exclusivity and a means to acknowledge said legitimacy through the legal framework (Wipo.int, 2006). The majority of the disputes between TK holders and those corporations that often exploit them is acknowledging and legitimizing where the source of the information came from (Wipo.int, 2006). Academic peer review is a research tool that scrutinizes a proposed piece of work by the peers of the author of a particular field and provides legitimacy to the information, methods of practice and sources of data that go into a publication (Voigt & Hoogenboom, 2012). In this process, the data that is collected and put forward by the author on the subject matter is criticized based on its origin, authenticity, reliability of sources, reliability of the data analysis method(s), and accuracy in how it relates to the subject matter or hypothesized question (Voigt & Hoogenboom, 2012). In peer review, the source of the proposed information is arguably given the most critique as it can directly affect the outcome of a study in terms of providing bias (Santini, 2018).

2.1 The peer review process

Peer review is a process that assesses the quality of an article or piece of scientific work by members of the scientific community that are of similar competence or qualification in the subject matter (Elsevier.com, 2018). In short, an author's work that is put forth for possible publication is assessed among their peers. This serves as a means of self-regulating the several and various disciplines in academia and should ideally provide high standards and credibility to quality work generated in their respective disciplines. Each discipline in academia may have specific requirements throughout their review process, but in general, they strictly adhere to common fundamental steps (Voigt & Hoogenboom, 2012):

- Completion of study: The complete consolidation of required information of a particular study or investigation is required preliminarily.
- Submission of study: The submission for a publication is usually in the form of an article written in the stipulated format of the desired journal.
- Review process: A journal editor receives the author's work and sends it out to experts in the same/similar field for assessment and scrutinization. This process is further broken down into either single or double-blinded reviews. The former refers to the type of review where the reviewer is aware of the author's name(s) and identity while the author(s) is/are not aware of the reviewers' identity. The latter type of review is the situation where neither author(s) nor reviewer is aware of each other's identities and the manuscripts being reviewed are essentially anonymous. The initial reviewer determines whether the article is in the scope of the journal and the editor also carries out a preliminary review of the study, before it is sent to various professional reviewers (Biomedcentral.com, 2018).
- Initial Feedback: The reviewers provide their remarks and opinions on the work presented for publication back to the author(s) (Biomedcentral.com, 2018).
- Corrections and re-submission: The authors make relevant amendments if any and resubmit the work again for consideration (Biomedcentral.com, 2018).
- Publication: Those articles that meet the standards of the journal are accepted and published into the collective body of work represented by that journal.

This review process is a time and resource consuming endeavor and can thus take a few months to over a year to complete depending on the complexity of the subject matter and the number of resubmissions the author presents (Voigt & Hoogenboom, 2012).

Academia and research are what spearhead the endeavor of providing better healthcare, better technology and medicines that ultimately reach the patient. For example, research into vaccination has provided cost-effective intervention against infectious disease resulting in significant global health improvements and reduced mortality (Valen et al., 2011). Vaccines have been responsible for the successful elimination of smallpox, the near elimination of poliomyelitis, the worldwide decline of pneumonia (pneumococcal vaccine) and diarrhoea related mortality (rotavirus vaccine) where they save and continue to save millions of lives every year (Valen et al., 2011). Research into HIV/AIDS treatment in South Africa by the Centre for the AIDS Programme of Research (CAPRISA) has contributed to the understanding of HIV pathogenesis, prevention and epidemiology. Academic research over the centuries has led to the many of the medical breakthroughs from which modern science benefits; from something as early and serendipitous as the discovery of penicillin and subsequent antibiotic

successes to the Sci-Fi-like use of augmented reality technology to rehabilitate patients suffering from PTSD and other such traumas, these successes can in large part be attributed to dedicated research endeavors, making them an indispensable part of the field of medicine and therapy (Fathima, Shankar, Thajudeen, 2018). Research in the academic world operates under stringent protocols that ensure the continued quality of information that comes from research institutions while simultaneously upholding fundamentals that are at the core of research i.e. discovery of the unknown, accurately acquiring and disseminating information, contributing to societal development and the continuous growth and development of our species as a whole (Pouris & Inglesi-Lotz, 2014; Smith, 2014). The peer review process is one such protocol that must be followed to ensure that quality information based on reputable research is added to the pool of knowledge in modern medicine. Thus, it is no surprise that much of the ethical practices that are expected in academia find their way into the practice of healthcare. The fundamental principles are very similar, i.e. to gather and disseminate important information in an ethical manner that acknowledges and respects the contributions of TK to modern medicine and is of benefit to those persons afflicted with illness that modern medicine aims to treat (Fanzo, 2015).

Reliable references are critical for reliable and accurate results and thus a large part of academic writing and the peer review process is the acknowledgment and appreciation of credible sources of information that one draws from to conduct a study or formulate an argument; by properly referring to these contributions (Santini, 2018). This is done in majority by incorporating a referencing style into the body of work or publication, the formats of which vary depending on the publisher (Deakin.edu.au, 2016). This peer-to-peer accountability has developed a culture of respect for the origin of information and pays homage to authors that have contributed to and continue to contribute to the growing knowledge pool that so many stakeholders benefit from, whether within and outside of academia (Santini, 2018). Also, culture is a provision for punishing transgressors that refuse to recognize or accredit their sources (plagiarism) which often involves a form of exclusion from many academic networks and in some severe instances, exclusion from professional academia itself (Deakin.edu.au, 2016). It is thus very realistic to strive for a professional situation whereby the individuals, research institutions or corporations that have historically and/or are presently involved in IP disputes as a result of bio-prospecting or knowledge appropriation, adhere to the same culture of checks and balances, ethical research practices, moral reciprocity, peer-to-peer accountability and consequences for transgression, that is observed in much of the academic world. In doing so, the sources of so much of the world's traditional knowledge and the sources of many indigenous plant-based therapies are accounted for and the contributions of those there from, are acknowledged and recorded in history.

3 Environmental bioprospecting, biopiracy, and intellectual property disputes

The evolution of medicine throughout the history of humanity has had common fundamental origins. Natural products and nutraceuticals from various regions of the world have been the focal point for the development of potent and life-saving medicines used to treat a myriad of illnesses that have occurred throughout human history and even those that are observed till today. Native knowledge of these pharmacologically active natural products has been crucial in identifying those products that can be beneficial to certain illnesses (Debbarma et al., 2017; Xavier et al., 2014; Cheikhyous et al., 2011). For instance, the natural stimulant tetrahydrocannabinol (THC) found from the Cannabis sativa plant was first recorded to be used medicinally and recreationally in China and the greater Asian continent (McClatchey et al., 2009). Characterization of the compound had led to the discovery of cannabinoid receptors in the body and the subsequent elucidation of other active compounds from the plant such as cannabidiol (CBD), a non-psychoactive component of the cannabis plant. It has been clinically shown to alleviate pain, reduce anxiety, reduce blood pressure and has even shown positive outcomes in psychiatric conditions such as PTSD (Bitencourt & Takahashi, 2018). Another example is the alkaloid compound, Reserpine, a potent depletor of monoamines in the brain such as dopamine and noradrenaline (McClatchey et al., 2009). The plant, Rauvolfia serpentina where it was isolated from, was commonly used in Asian medicine, notably by the Ayurveda system of medicine practice in India to treat hypertension, snake bites and even psychotic conditions such as schizophrenia as early as around 2500 BC (Narayanaswamy, 1981; McClatchey et al., 2009). Only fairly recently in the 1950s was the compound isolated and structurally elucidated but this discovery brought with it much information regarding mental illness and the treatment that is required for it particularly in conditions such as Major Depressive Disorder (MDD). These examples are to highlight how modern medicine and medicine technologies as we know them can be traced back to a more rudimentary but still scientific and valuable ethnobotanical knowledge of the environment possessed by the indigenous people of those lands.

Ethnobotanical knowledge is arguably one of the most abundant knowledge databases for the discovery of novel natural compounds (Mondal et al., 2012). TK has long been the basis of several successful drug discovery and development endeavors by many pharmaceutical companies over the past several decades (Mondal et al., 2012). Over the last few decades, the marked increase in global consumerism habits that have often become synonymous with environmental damage, have undergone a paradigm shift in the form of a sort of moral reciprocity (Ryan, 2014). This “environmental renaissance” as described by Ryan (2014) is one where humans are recognizing the implications of their accelerated resource consumption on their immediate environment and on the planet as a whole. Events such as climate change, the rising global temperature

and pollution of land and water bodies to name few, makes it more evident that we are leaving scars on the planet, slowly killing it and ironically, ourselves in the process (Climate Change: Vital Sings of the Planet, 2018).

This "renaissance" has led to the development of a posthumanist relationship to the environment, and as described by Ryan (2014), "one where the environment is viewed as an active and creative agent to be worked with rather than as a material, substance or sight to be worked over." The author describes this attitude towards planetary health as a "moral virtue" and an essential reciprocal relationship that has huge and direct implications on our health and lifestyles (Ryan, 2014). Unfortunately, the realization of just how essential this relationship is, has come retrospectively now that we are observing the tangible and fatal effects of climate change. For example, record high temperatures as a result of global warming have already manifested in heatwaves and numerous wild fires like those observed in the North America, Greece and the Eastern Cape of South Africa (Berwyn, 2018). Record-warm ocean temperatures have resulted in increased intensity of events such as hurricanes and heavy monsoon rains resulting in heavy flooding in countries such as Japan, Indonesia, the east coast of the United States and Haiti and the droughts experienced in South Africa to name a few (Berwyn, 2018). In addition to this, flooding can destroy city sewage/drainage systems putting its population at the risk of water borne diseases. The reality that these climatic events are intensifying combined with the increase in global networking that social media provides, enables those communities affected by climate change to share important information about its effects to all corners of globe which increases the international concern and also participation in matters that pertain to climate change (Villavicencio Calzadilla, 2017).

The landmark Paris UN Climate Change Agreement that was signed on April 22nd, 2016 saw 175 nations agree to limiting the rise of global temperatures to below 2 degrees Celsius by implementing various economic regulations to limit the environmental damage (Un.org, 2018). This was a major step in the fight to decelerate the human influence on climate change and was one of the first moments in history where the international community acknowledged the harm that we as a species are doing to the planet and the rest of its inhabitants. This agreement illustrated a collective level consciousness among the nations in agreement. This awareness or consciousness of the self and the other is what needs to be achieved for us as a collective species to recognize, respect and desire to protect both human and non-human entities alike. The familiar themes of humanism and egoism in modern civilization, that have arguably been the reasons we find ourselves with the socio-political and socio-environmental issues we observe today, are undergoing a change into themes that are less subservient to the ego, less exclusionist and less human-centered into ones that cater for hybridity, inclusiveness and mutually beneficial relationships (Bolter, 2016). The new paradigm caters for entities of various natures to be

acknowledged as a part of our reality and thus important in as far as both the human and non-human entities have the inherent and intrinsic right to exist and to do so simultaneously. The Paris Agreement acknowledges the natural environment as an independent agent that inherently has the right to exists along with all its components.

Our current developmental trajectory as a species is highly reliant on our environment's capacity to provide many of the necessities of modern societies and its many components (such as healthcare systems) and thus reciprocity ethics must become norm when undertaking projects or making policies that have environmental consequences. An ideal symbiotic situation is one where the environment is the platform for human development and that ethnobotanical knowledge, along with cooperation from indigenous/local communities, can be the medium through which modern medicine can benefit from the environment and its natural products while simultaneously giving back to the environment in the form of support for local communities/stakeholders that would otherwise be exploited (Ryan, 2014).

Many modern medications on the pharmaceutical market are a result of semi-synthetic synthesis of a potent yet difficult to amass compound found in a plant. An example of this is the anticancer drug Paclitaxel commonly sold as 'Taxol', a compound derived from the bark of the pacific yew tree, Taxus brevifolia. Initially, the bark processing method, whereby the compound was extracted from the plant bark and purified, was deemed unsustainable as the tree was killed in the process and the yield of the compound was too low to meet the demands for clinical trials and subsequent market sales (Ryan, 2014). The solution was a semisynthetic iteration of the compound by using naturally occurring 10-deacetylbaccatin in the needles of the more abundant European species of the yew tree and adding a beta-lactam ring to it. This process was proved to be efficient as it involved relatively few steps and had yields as high as 80 % (Jacoby, 2005). In this instance, nature product was the template that was improved upon by human ingenuity, all while consciously and proactively trying to conserve the resource that made it possible in the first place via semisynthetic production. The moral understanding here was that despite the proven benefit of the plant extract in cancer remediation, it was not possible to maximize its potential as a commercial drug without exploiting and seriously damaging the ecology surrounding the yew tree species. The understanding of environmental morality as described by Ryan (2014) in the context of the discovery of Taxol, is congruent when one considers the above mentioned posthuman approach to environmental interaction. The moral reciprocity, in the story of the development of Taxol, was ensuring the well-being of both the resource and the beneficiaries of said resource, as both parties have the intrinsic right to exist (Ryan, 2014).

Traditional indigenous North American tribes such as the Navajo and the Lumbee and the Cherokee have used plants such as American pokeweed

(Phytolacca americana) to treat conditions such as rheumatism, arthritis and even certain cancerous conditions. Hutchens (1991, p. 351) suggests anecdotal evidence that corroborates the efficacy of a poke root poultice used by the Native Americans as a treatment for breast cancer and ulcerous cancers (Ryan, 2014). Recent research has discovered Pokeweed Antiviral Protein (PAP), a type I ribosome inactivating protein that has demonstrated significant antitumor effect in laboratory transgenic plant studies on plants inoculated with certain viral and fungal strains (Di & Tumer, 2015; Domashevskiy & Goss, 2015). This is a breakthrough in the ongoing battle against various types of cancers and the foundation for this breakthrough is the ethnobotanical knowledge of the indigenous communities of America. It would be in the true spirit of moral reciprocity that the efforts of the indigenous communities and the use of their environmental resources be recognized and acknowledged as valuable contributions to health sciences (Ryan, 2014).

However, in many instances this is not the case. There are several instances where global commercial exploitation of indigenous medicinal knowledge has occurred and will be discussed below in the following case analyses.

3.1 India

The Indian subcontinent is a large territory blessed with a variety of climates as it stretches across both hemispheres that provide environments for a plethora of plants and natural products. One such plant is the neem tree Azadirachta indica. The neem tree is a significant plant in many cultures around the country and is used for producing medicines, fertilizers and ever insecticides and has been so for millennia (Kumar & Navaratnam, 2013). In the early 1970s, the plant began to gain noticeable popularity in the US markets as word of its versatility travelled the world and imports of the plant to the US increased (Jordaan, 2001). The neem trees ability to act as a pesticide was of particular interest to US timber importer, Robert Larson, who in 1971 observed these properties of the plant and sought to introduce it to the US market as an extract under the name Margosan-O (Shiva, n.d.). In 1985, the US Environmental Protection Agency (EPA) had granted the use of the extract as a commercial pesticide and three years later, Larson sold the patent to the chemical company W. R. Grace and Co (Shiva, n.d.). The company claimed that the pesticide was a strong and stable formulation with Azadirachtin, a major moiety of the neem as the active agent and decided to patent the neem derived substance. This led to public backlash by Indian communities as they refuted the patent assertions by Grace and Co deeming the patent an act of biopiracy. Grace and Co in turn denied the claims and reported that the methods for developing the extract was novel and thus made it amenable to patenting (Shiva, n.d.). There is an argument against W. R. Grace and Co. for unethically using the ethnobotanical information that was

known to many native communities for commercial gain oversees without any recompense to the indigenous communities of India. This is considered a moral and ethical transgression by the Indian communities and those that sympathize with similar exploitation of indigenous intellectual property (Hamilton, 2006). Situations such as these are prevalent throughout history and still occur till date (Hamilton, 2006; Tedlock, 2006; Hamilton, 2008; Straus, 2017). In recent years, pressure from stakeholders has urged local governments to be accountable for the wellbeing and exploitation of their populations and this has prompted countries such as South Africa, Cameroon and others to establish regulations with regards to indigenous knowledge and has led to the proposition that traditional knowledge should be treated the same as intellectual property (Tedlock, 2006). This has sparked many debates as so what constitutes 'a tradition' and has led many to believe that indigenous knowledge should be protected through intellectual property frameworks, with many countries taking such initiatives (Hamilton, 2006).

When debating the case of the biopiracy of the neem plant, it is important to ask what constitutes the idea of something being 'novel'. The Indian communities would argue that the plant and the knowledge of its pharmacological versatility and range of applications was part of a millennia of pooled ethnobotanical knowledge of the plant; knowledge that was freely available to the community (Hamilton, 2008). According to Grace & Co critics, there was no generating of new knowledge that led to their patent but simply used the already existing data on the neem tree and thus lacked true innovation (Hamilton, 2008). Grace & Co are of the position that it is the method of extraction i.e. using ion exchange resins, that was novel and non-obvious and thus not a question of innovative legitimacy (Jordaan, 2001; Hamilton, 2008).

3.2 Australia

The Conospermum genus, also known as smokebush, is a family of plant species endemic to the Australian continent and is a widely used medicinal herb by the indigenous Aboriginal population for a variety of therapies (Jordaan, 2001). In the 1981, The US National Cancer Institute (NCI) had procured samples of the plant species to test for any anticancer activity but found no evidence of such (Jordaan, 2001). In the late 80's however, the samples were again tested and screened for antiviral effects and these studies reported a substance that that was effective against HIV at low blood concentrations (Jordaan, 2001; Decosterd et al., 1993). It was identified Conocurvone, a trimetric naphthoquinone extracted from the Conospermum incurvum species (Kurapati et al., 2016; Decosterd et al., 1993). In order to commercially develop their "new discovery", the Australian government licensed Amrad pharmaceuticals, now a subsidiary of

Merck & Co. This was further escalated when the NCI granted Amrad pharmaceutical a worldwide license to patent the substance and in return the Australian government was given royalties exceeding 100 million dollars by 2002 (Jordaan, 2001).

There have been no reports of reparations made to the Aboriginal community of Australia who are the indigenous residents of the land from which the plants were harvested. In 1993, the Australian government amended its conservation and land management Act of 1984 to include a clause that designated state control over biological resources (Jordaan, 2001). The major criticisms of the actions of both the NCI and the Australian government are the blatant lack of acknowledgement for the centuries of traditional knowledge that existed among the Aboriginal community regarding the therapeutic use of the plant species and secondly, the abuse of power by the Australian government to let a foreign enterprise take advantage of it indigenous population and its resources that are under its protection without any formal compensation.

3.3 Cameroon

The African cherry tree, Prunus africana, possesses very potent antiandrogenic and antiangiogenic properties and has been reported to kill tumor cells via apoptosis, prevent the development of BPH and alter the signaling pathways that are needed to sustain the prostate cancer cells (Komakech et al., 2017). Over 70% of the global supply of the of the bark that is used for pharmaceutical and therapeutic use comes from a small region in Mount Cameroon and is exported and extensive debarking of the trees over many years has led to the declining population of the species (Samndong, 2016). Commercial exploitation of the trade of the tree was reported to have started around the early 1970s by Plantecam medicam, a subsidiary of the French pharmaceutical company, Laboratoire Bebat, who had monopoly on the product export (Samndong, 2016). The company recruited local villagers to harvest the bark who were paid roughly the equivalent of 1 US dollar for a day's labour but was reported to have made over 150 million US dollars in 1992 selling to the European market (Jordaan, 2001; Samndong, 2016). None of these profits have been repatriated to Cameroon and neither have the effort of the labourers nor the traditional knowledge of the therapeutic benefits of the plant been recognized as contributions to the vast success that Plantecam medicam observed in the global market.

3.4 South Africa

There are similar instances of biopiracy in South Africa, a country that due to its extremely diverse ecology, has been the target for many Japanese, European and American pharmaceutical companies to obtain their raw natural product materials from (Jordaan, 2001).

One example of this is the exploitation of the Rooibos plant (Aspalathus linearis), a very popular indigenous tea that has become increasingly popular as 'superfood' and health beverage due it being devoid of caffeine and at the same time rich in antioxidant flavonoids such as aspalathin and nothofagin, has low tannin content and is an antispasmodic (Canda, Oguntibeju, & Marnewick, 2014; Jordaan, 2001). This tea is reported to have been traditionally used by the descendants of the Khoi and San people of the Cedarberg Cape for many generations and at the beginning of the 20th century had no commercial value nor was it really on the market radar (Joubert & de Beer, 2011). Swedish botanist Carl Peter Humberg in 1772 was historically recorded to have instigated biopiracy of the tea by learning of its benefits from the Khoi-San people and began marketing it to Germany under the name "Rooibos' or "Massai tea" (Amusan, 2014). In 1904, the tea was made popular in the market by Russian immigrant Benjamin Ginsberg, a merchant of Clanwilliam, who with the help of Dr. P. le Fras Nortier (also of Clanwilliam) cultivated the crop at a commercial scale (Amusan, 2014). The rapid expansion of land utilization for this crop during this period threatened the biodiversity of the Greater Cederberg region and as a result, the Rooibos Tea Control Board was established in 1954 to regulate producer prices (Jordaan, 2001). In 1970, South African author and cosmetic influencer, Annique Theron published her book Allergies: An amazing discovery on rooibos which made the plant gain notoriety in the western world (Amusan, 2014). She registered her cosmetic company, Forever Young, in America where she produces cosmetics with rooibos tea additives which further popularized the plant leading her to file a trademark application for Rooibos with the US Patent and Trademark Office (USPTO) (Amusan, 2014). South African company, Rooibos Limited, challenged the patent as the deemed the export of the plant product under the name 'Rooibos' was a violation of Intellectual Property law and sales in the US should be curtailed if it was not classified as under a generic name, a claim that was backed by the South African government and the Western Cape Province (Amusan, 2014). After it was trademarked in the U.S., Theron reportedly sold the patent under what appears to be dubious circumstances to an American friend, Burke-Watkins, co-founder of Burke International Pharmaceuticals, for $10 in 2001 (Amusan, 2014). Rooibos Limited in South Africa aimed to combat this by attempting to register the product with the USPTO as "Rooibos the Red Tea" which caused backlash by Burke International as the product still contained the word 'rooibos' in it. After nearly a decade of legal battles the matter was settled out of court and both parties used the word 'rooibos' in conjunction with other words/symbols such as

'™' in 2006 (Amusan, 2014). Rooibos limited also registered the product with Benelux Office for Intellectual Property (BOIP) to gain a stronger foothold in the market (Amusan, 2014). All the while this is was happening very little was discussed about the ramifications of exploiting rooibos tea would have on the indigenous Khoi-San community. Recognition of the traditional knowledge of the rooibos plant as the basis for the large success observed went unaccounted for and these communities as a result have fallen victim to the harsh ramifications of world trade policies that protect products registered under licence. Policies do not seem to account for the lineage of the information that contributes to knowledge that produced and popularized the products under licence, making it difficult for the indigenous owners of the intellectual property to seek justice in the form of reparations or compensations (Amusan, 2014).

Over the years the South African Government and the Khoi-San people have together aimed at developing protocols to ensure that natural resources indigenous to South African communities is protected and said communities or their natural resources are not exploited commercially or academically. The San code of research ethics is one such proposal by the South African San Institute and this document highlights 5 core ethical principles they expect persons of interest to follow when conducting research or bioprospecting studies on their indigenous land (South African San Institute, 2017). Once again, these guidelines have adopted some facets of Gillonian Principlism as part of its core values and are as follows:

- Respect: Respect for indigenous persons and their community, their culture and history and their sensitivities. Respect for culture also includes respect for the communities relationship with the environment in that any contributions made by the community or the environment on which the research is conducted, must be acknowledged. This aspect of the code of conduct also gives provisions for mutual accountability.
- Honesty: Honesty on behalf of those parties wishing to carry out research or bioprospecting on San land is deeply valued and expected. Intentions of the proposed research must be transparent and non-malicious. This code gives provisions for the language that must be used in agreements between the San and the researcher i.e. clear and non-academic, makes provisions for informed consent by the local community members to partake in research studies so they are not exploited.
- Justice and Fairness: This code of ethics describes the moral obligation of the researcher to meaningfully involve the San community in the proposed study which includes learning the benefits of the research and what the community can expect in return. This code gives provisions for means of compensation in the form of co-research opportunities, sharing of skills and technology and also monetary compensation. As part of exacting justice on breaches of the code, the San will use dispute resolution mechanisms which will include refusal to conduct future research on San lands.

- Care: This code of conduct outlines how research conducted on San land must be aligned to local needs and should in some way aim to improve the lives of the local community. 'Care' implies that the care for the community and the physical environment must be considered. 'Care' also includes the acceptance of the San people for who they are which includes their social and cultural norms.
- Process: The code of conduct stipulates that researchers need to follow protocols set out by the san carefully in order for the ethical codes of conduct to work effectively. The San Council manages the protocols that will set specific requirements for various steps of the research to which the researchers must agree to. This is in order to oversee that the community and its environmental resources are not exploited (South African San Institute, 2017).

The Khoi-San community is acutely aware of the bioprospecting transgressions that can happen when working with large corporations or participating in research endeavors and has thus taken steps to ensure the protection and continued development of their human and non-human resources.

4 Economic cost-utility philosophy and associated inconsistencies – Utility in healthcare

Utilitarianism has been made synonymous with the phrase "the ends justify the means" in that we should in all circumstances make choices that produce an overall net positive for all persons involved (Mack, 2004). This principle is about maximizing utility, in other words it is a philosophical principle focused on the efficiency of systems in maximizing desirable outcomes. This principle is strongly adopted throughout the multifaceted system that is healthcare (Mack, 2004). From multi-billion-dollar pharmaceutical enterprises to community level clinical practice, the understanding that healthcare is an expensive economic expenditure is universal thus results in efforts to make the system as efficient as possible in providing the most wellbeing at the least cost (Mack, 2004). For example, the formulation of essential medicine lists is a calculated pharmacoeconomic process that involves assessing several parameters of economic efficiency including cost-minimization, cost-effectiveness, cost-benefit and cost-utility (Apps.who.int, 2018). The most philosophically relevant and arguably most challenging of these is the cost-utility analysis because the outcomes of these decisions are measured in terms of health status (a utility) or an improvement thereof as perceived by the individual; an otherwise seemingly subjective quantification (Apps.who.int, 2018). Despite this, efforts have been made to express the value for money invested into healthcare service in terms of a single type of health-related outcome and that is the *Quality Adjusted Life Year* or (QALY) (Apps.who.int, 2018). According to the WHO, an increased quality

of life is expressed as a *utility value* ranging from 0 (a state of death) to 1 (perfect quality of life). Assessing a potential health benefit of one treatment versus another, say for example a chronic drug therapy vs a surgical procedure, becomes a matter of how well each intervention reflects as a QALY score (Apps.who.int, 2018). This process of determining health benefit outcomes has been criticized for attempting to assign an accurate numeric value to qualitative experiences, and that this value empirically quantifies individual outcomes as experienced by the individual (Mack, 2004).

The applications of normative utility philosophy in healthcare systems do not always translate from their ethical tenants. The inconsistencies lie in determining what constitutes utility and how to objectively aggregate widely different interests in order to accurately determine what is 'maximal value' and, ultimately, what constitutes a good/ethical action (Mack, 2004). In utilitarian healthcare, consequences or outcomes of care can be interpreted in various ways; one of which is how an outcome results in a particular desirable health state and how it meets individual needs. Another is how an outcome may be thought of as the extent to which the health gap in a population might be narrowed, however the former is the more common interpretation of the two due to the fact that healthcare is commonly dispensed at an individual level with a physician (Mack, 2004). Thus, the notion that good ethical actions are those that maximize the benefit of the population, at some (or several) level(s), comprises the desires and convictions of the individual (Mack, 2004). Such is the idea of the Pareto principle which stipulates that 80% of healthcare costs come from 20% of those in need of health services also known as the '80/20 rule' (Naoum et al., 2016); it is a utility based principle that advocates for concentrated effort on those endeavors or interventions that have the greatest impact (Institute for Healthcare Improvement, 2019). The ethics of utility have been criticized for being overly 'collectivist' in nature in that the goal of maximizing a collective measure of every individual utility does not take into account for the distribution of said utility in the population (Mack, 2004). This philosophy implies and assumes that sacrificing some individual utility at the benefit of the larger collective is something every individual is prepared to do at the expense of their own aspirations and intentions and is in essence a moral justification for limiting individual rights (Anzinger, 2004). Utility has parameters that do not account for the diverse experiences of welfare and wellbeing of its constituents but has to subscribe to an impersonalized version of the welfare of the collective. This doctrine's limitations include conceptualisation and acceptance of autonomy, respect for persons and justice, as crucial facets of its experience and is thus ethically inconsistent with the moral philosophy that guides the practice of professional healthcare service and the associated corporate institutions that they work alongside with (Mack, 2004).

5 Post-humanism as an alternative philosophical anthropology to utility and deontology ethics

5.1 Autonomy and agency

Autonomy and agency are words that are used quite anonymously but have different connotations when discussed as philosophical concepts. If all known entities are objects, then any object is any entity to which a mental can be ascribed. A spoon, for example, is an object that has the ascribed mental state of a spoon so long as it serves the purpose of a spoon i.e. to stir, sip from, etc. A spoon (or any object) is thus then an agent only if it satisfies the conditions of a purpose that is imposed on it. However, this purpose is dependent on the mental state we ascribe to other objects and can thus alter what a spoon represents in certain contexts; in other words, agency is transient so an agent can revert to being a passive object should it lose its ascribed mental state. An agent that is able to intrinsically generate its own goals and whose agency is not depended on the agency of other entities, is said to be an autonomous agent (Luck & d'Inverno, 1995). Autonomous agents possess motivations and an acuity to evaluate behavior as they relate to said motivation and are also able to perceive phenomena that are not related to their own motivation. Autonomy is central to many other philosophical ontologies because they acknowledge that autonomy is the basis of intrinsic motivation for any endeavor and the reason of any observable human behavior (White, 1959).

Thus, utilitarianism does not do justice in accurately accounting for the human condition, especially when examining its ethics because this moral position ultimately reduces the individual to a unit that is indistinguishable from any other. The Greatest Happiness Principle or the general concept of utility assumes that all motivations are collective and autonomous agency is irrelevant because the only outcome is the satisfaction of an impersonal collective motivation that the individuals that comprise the collective are willing to synchronously work towards (Luck & d'Inverno, 1995). It essentially assumes that the removal of autonomy and the subsequent compromise of individual aspirations and motivations is consensual and ultimately to the benefit of the individual in as far as the individual benefits the collective wellbeing. The idea of utility as put forth by consequentialist philosophy cannot simultaneously account for the wellbeing of the collective and the autonomy of all of its individual constituents as the two notions fundamentally contradict each other. Individual aspiration, at whatever cost, are sacrificed for greater collective benefits for any action to be deemed ethical in utility ethics. In a utilitarian system, autonomy is not desirable nor functional, thus the individuality and the actualization of the self are things that would take away from the collective and, as a result, the greatest benefit goes unachieved and those autonomous/self-serving action/decisions would constitute ethical wrongdoing. It is thus a bold assumption within utility philosophy that a

human being must and is ready to abandon autonomy, conscious and/or unconscious intrinsic egoism and the survivalist self-servitude of our nature in order to satisfy a collective and impersonal objective whose undertaking is supposed to reflect a degree of goodness or wrongness of our actions.

5.2 Environmental ethics

The increasingly observable changes in our environment, as direct or indirect impact of human activity, has made environmental ethics a spotlight discipline in philosophy that aims at studying the moral relationship humans have with the biosphere and nature's abiotic components (Brennan & Lo, 2002). Environmental ethics and ecological studies are challenges to the mainstream 'Western' anthropocentric ontology of human-environmental relationships where even notable philosophers such as Aristotle was famously quoted stating "nature has made all things specifically for the sake of man" and that "the value of non-human things in nature is merely instrumental" (Laal, 2009). Aristotle's take on the relationship is that of an utilitarian since non-human entities are merely an "instrument" or a means to be used to benefit and achieve man's ends. Even Immanuel Kant in his work Lectures in Ethics: Duties to Animals and Spirits suggests that cruelty to a dog may increase the likelihood of a person developing an indifference to human cruelty implying that the act of cruelty to a dog is instrumental to a more significant cruelty to humans and not intrinsically wrong but only in as far as it affects human beings (Brennan & Lo, 2002). Thus, classical "Western" philosophy and religious canon provide an inadequate and almost static understanding of ecology and its dynamic natural relationships. Aristotle, Bentham, Sidgwick, and many other traditional ethicists advocated for an anthropocentric existence that places a heavy burden of demand from the environment with very little or no consideration and inclusion for its protection, finity of resources, exponential human population growth, and ultimate self-injuring exploitative practices (Brennan & Lo, 2002). Even the book of Genesis in the Old Testament of the Bible describes God telling Adam and Eve to "be fruitful and multiply, fill the earth and subdue it and have dominance over every living thing that moves upon the earth", a notion synonymous with the moral fundamentals of utilitarianism (Bible Gateway, 2019).

5.3 Deontological approach

Traditional deontological theories on environmental ethical issues hold the position that an action is 'right' or 'wrong' not because of its consequences but because of the intrinsic 'rightness' or 'wrongness' of said action(s). However, deontology limits this to human beings only (Anzinger, 2004). As stated by Brennan and Lo (2002), animal rights activist and many proponents of environmental egalitarianism in the early 1980s formulated such deontology-based theories that gave qualitative value to the experiences of animals based on the intrinsic criteria of "subject-of-a-life". This suggests that for something to

have intrinsic value and thus be a "subject of a life" a subject must have sense-perception, beliefs, desires, motives, sense of self and others, a sense of time and other facets of perception). Thus, it would be our moral duty as rational sentient beings to respect this right and to do no harm to other subjects-of-a-life. It recognizes all biological life as sentient and more significantly, autonomous, which is not always the case. The criticism with this 'biocentric' stance is that it is too individualistic in its moral approach to account for the conservation concerns for ecological "wholes" - a 'whole' being a species or other descriptive classification of collective of organisms. That is to say that it does not adequately consider how various natural systems (biotic and abiotic) operate as self-contained yet interdependent collectives (in that species are self-contained wholes/aggregates but their existence is linked to the existence of other self-contained species of organisms) and how in nature, non-human (biotic) life exhibits more collectivist interactions (Brennan & Lo, 2002).

Virtue ethics is the third major field of normative ethics that argues that utilitarian and deontological philosophy is not robust enough in defining concepts such as "goodness" and "badness" and that morality involves more than just concepts of duty or utility but other more abstract virtuous phenomena such as kindness, greed, justice or sincerity. Virtue ethical theory is criticized for not being able to explain the convictions/rationality for human behavior but rather serves as a guideline to living a "virtuous human life" which is in itself is a central concern of the agent (human). Virtues such as benevolence, courage and trust are said to be integral to a flourishing human experience and are simultaneously influenced by needs and desires thus not always motivated by a sense of duty or maximum utility. Considering that this stance is arguably anthropocentric and does not suggest of how the non-human elements of nature are to be concerned for from a moral standing, it does suggest that a 'flourishing' human experience requires the moral capacity to understand and value love, respect, reciprocity and care for the non-human natural world as an end in itself (Brennan & Lo, 2002).

5.4 Contextualizing post-humanism

As mentioned earlier in the chapter, posthumanism is the current paradigm shift with which much of our environmental consciousness has arisen from. 'Post-human' implies a necessary degree of self-awareness that is required to simultaneously acknowledge the existence and desires of the 'self' and acknowledge the independent and autonomous existence of entities that are not the 'self'. Many post-humanist theorists have proposed that the ideology is critical to understanding what it means to be 'human' and that it also provides a philosophically based but practical approach to navigating the murky waters of the human-environmental interactions. According to Whatmore (2006), post-humanist approaches to issues such as environmental conservation require us to understand the ontology of beings, i.e. understand the essence of their being in

relation to our own existence. Post-humanist thinking is different from humanist ideology in that humanism centres around individuality, hierarchical existence and an almost isolation/detachment of the self from the surrounding environment, while posthumanism is centred around the idea of interconnected thinking and that considers all experiences as mixed, relative and relational. In practice posthumanism is a shift in the mentality of the humanist ontology of singular human rights to post-human mentality of existential rights i.e. the rights of any existing entity (such as the environment) (Datta, 2016). In summary, humanist conceptions of reality place human beings at the top of the ontological pyramid, while posthumanist conceptions aim to dethrone the self-centredness of the human experience and locate it in a more horizontal ontology with respect to our place in the world and greater universe.

5.5 Recognition of non-human rights and the protection of non-human agents

Whatmore (2006) states that "relationships are considered a political conception which can connect us with everything..." and it is this ontological idea that serves as the moral foundation and rationale for protecting IP rights of indigenous TK: the posthumanist approach to socio-political and socio-environmental issues focuses on the relationships of the parties involved and the mutual accountability they are morally obligated to (Datta, 2016). In contrast, humanist based socio-political approaches aim to serve the best interests of the self or the privileged few, while exploiting those resources (human and non-human) to achieve said interest(s). There are elements of utilitarianism that influence the ontological hegemony humans dictate in the natural world where the 'greatest good' is that which increases the collective benefit.

For example, the exploitation of natural resources like water by companies such as Nestlé has been rampant throughout the last 20 years and still persists till the present day (Glenza, 2018). In a recent 2017 investigation, Nestlé had been found to be exploiting the natural water aquifers of Evart, a small town in Michigan, U.S.A., only 2 hours away from the recently infamous town of Flint, Michigan. Nestle is reported to pump nearly 100,000 times more water than the average Michigan resident uses and Nestlé is only paying a comical $200 administration fee per annum to the state of Michigan to extract water from the aquifers. The residents of Flint, Michigan, are being exposed to elevated levels of lead in their tap water since the government, in an effort to save money, switched the city's water supply to the corrosive Flint river (Glenza, 2018). This has resulted in an increase of fetal deaths by 58% during the period but despite this, residents of Flint still pay upwards of $200 per month for tap water service delivery that cannot be used for consumption or personal hygiene. In a statement by Flint resident and activist, Gina Luster to the Guardian news outlet, she reported that she was forced to bathe her child in lukewarm bottled water emptied into a tub as a result of the harmful Flint tap water. The residents of Michigan see Nestle's bottling plant, Flint's tainted water supply and the mass

water shutoff to neighboring city of Detroit as conspiracy to develop a system of water resource profiteering that "puts the water into private hands" as put by Gina Luster (Glenza, 2018). This is an instance of corporations adopting a humanist approach to socio-economic dynamics where a few persons/entities in power are utilizing what is otherwise a public, natural resources to the benefit of themselves or a select few at the expense of the health and safety of the larger community. The philosophical position Nestle has chosen to subscribe to in this matter is that of anthropocentrism - a hierarchical ontological pyramid where humans and human interests are actualized at the expense of the natural environment and, consequently, those entities whose livelihoods very existence closely and intimately depend on (Kopnina et al., 2018). Corporate entities such as Nestle argue that the greatest happiness/benefit is not found in the cessation of its actions/services that prevent Nestle from producing products to meet consumer demands or actions that would in some way bring about instability and distress to stockholders, employees, consumers and the like. The desirable outcomes or consequences of this moral philosophy account only for the individuals (stakeholders) or rather the collective of individuals (the corporate board) that comprise the benefiting majority and not necessarily for the individual autonomous constituents. In essence it takes on the principles of utilitarianism that advocate for achieving what is deemed morally good (that which benefits the greatest number of people and maximizes utility) irrespective of the cost to the individual/the self.

At the other end of this spectrum we find social responsibility shown by large corporations in ways that ensure mutual accountability and mutual benefit to all relevant stakeholders and not solely to company shareholders. The term "stakeholder" takes the perspective that societal members are individuals that have an identity and a stake, claim or interest in the operations of the corporation (Velamuri & Venkataraman, 2007). The stake may be a legal one in which an individual is explicitly or implicitly contracted by the business and is carried out in the capacity of an employee, owner or customer or it can also be a moral stake where the societal group in question asserts their rights to fair treatment, due process or compensation for various damages such as an Intellectual Property claim (Carroll, 1991). A corporate example of this is the pharmaceutical company GSK, which in 2012, was involved in one of the biggest healthcare fraud scandals in history where the company pleaded guilty to promoting drugs for unapproved uses and failing to report safety data about a diabetes drug to the FDA and ultimately settling the case on a $3 billion agreement (BBC News, 2012). Fast forward to March 2016 and the very same company announces that it will no longer file drug patents in the lowest income regions of the world in an effort to increase patient access to medicine and health services (Time, 2016). In addition to this the company has partnered with the NGO "Save the Children" to train local community members in health-related education, how to properly administer vaccines, screen for certain conditions and dispense basic medical

services (Time, 2016). In Botswana, the GSK subsidiary, ViiV Healthcare, entered an agreement with the government to provide the HIV drug Tivicay (Dolutegravir) as part of the national outreach program for screening and management of HIV patients (Time, 2016).

In this example, GSK was shown to have behaved humanistically and with utilitarian ideals when it was convicted of knowingly promoting the use of unregulated medicines from which it profited (BBC News, 2012). However, in the latter example, GSK displayed moral and ethical values consistent with a post-humanist ontology whereby corporate social responsibility was the desired theme of their outreach initiative in Botswana. Corporate entities, as illustrated above, are capable of actions formed on either end of the moral spectrum be it self-serving and humanist or community oriented and post-humanist. The agendas of these organizations is primarily to maximize the profits from selling their products but the growing trend in many of the communities they are based is an increasing expectation of these corporate entities to be more socially responsive and accountable to all their constituents that have a claim or stake in the activities of the company within their community (Forbes, 2017).

The rapid developments in technology from around the world are reshaping the way everyday life is lived and play a greater role in the socio-political, cultural and environmental facets of our society. Developments in automated services such as driverless cars, voice-activated in-home personal assistants, artificial intelligence, pharmaceutical advancement, robotic surgeries and robotic physical augmentation are becoming more incorporated and accepted into our societies worldwide and as a result the line between the conventional humanist binaries of 'human and non-human' or 'culture and nature' become more and more blurred (Forlano, 2017). Thus, their contribution and intimate involvement in our existence must be acknowledged which requires us as humans to recognize them as entities with agency. For example, the Maori tribe of New Zealand after over 140 years of negotiation with the New Zealand government, won a legal battle to grant the Whanganui river the status of ancestral personhood giving it the same legal rights as a citizen of New Zealand (Roy, 2018). The field of biotechnology has shown advancements in gene editing using CRISPR/Cas9 technology that is able to alter genes in many organisms to treat disease or predetermine it. Advancements such as these challenges us as a species to ask difficult ethical and moral questions such as what it means to be human? What is identity? How will the assimilation of non-human entities into everyday human life alter who or what we are and thus ultimately what will it mean to be human in the future? (Roy, 2018). It is also important to remember that when discussing these ethical post-human dilemmas that consideration of the non-human entities must be made as well, thus any technological designer or research endeavor that needs to navigate these ethical problems must ask itself certain questions as suggested by Roy (2018):

- "Who or what are the users of said designed technology and for whom or what should the design be desirable?" The user here could mean any entity weather human/animal or an individual or networked organization that must be considered as an entity with rights.
- How will agency and power distribution be carried out across human, machine and/or natural ecological systems? This consideration is critical as it determines how we as human beings will interpret our relationships with nature and technology when these entities are added to the power dynamic between man and the nature.
- What knowledge, stakeholders and partnerships are required of the designers or researchers to address these conundrums. This consideration is very important when dealing with stakeholders involved in IP disputes about TK. It requires that all parties both human and environment be considered and given agency.
- How are/will the ethics of post-human ideology be reflected and embedded throughout the design process of the technological instrument or research endeavour, i.e. will these ethical values be incorporated into societal framework and if so how? And also, what if any existing or future policies will they influence? (Roy, 2018)

As was mentioned above, in most societies around the world, morals and ethical values influence the laws that are enforceable in a society (to varying degrees) and thus they are very important when forming legal frameworks that seek to justly govern a population/community and resolve inevitable disputes. Traditionally, the legal framework that aims to carry out dispute resolution between persons or persons and corporate entities and does so with the understanding that each party is a self-contained entity with rights (Masango, 2010). This means they are both entitled to a due process that allows them to contest disputes over a claim to property for example with opposing convictions as in the case with IP dispute resolution with indigenous holders of TK. Parties on either side of an IP property dispute have their opposing reasons for challenging the proprietary status of the product as either side tries to claim royalties from the market successes of said disputed product (Masango, 2010).
The idea of Intellectual Property (IP) covers four unique types of non-material property.

i. Patents: The rationale for patent protection is to enable the patent owner to prevent other authors/persons from "making, selling or using the subject matter of the valid patent" (Masango, 2010).
ii. Copyright: The rationale for copyright protection is "to uphold the economic and moral rights of the copyright owner. This includes the right of the owner to prevent others from financially benefiting from their work (Masango, 2010).

iii. Trademarks: Trademark protection is to prevent a second party from appropriating or capitalizing on the value of a successful/well-known brand, trademark or servicemark (Masango, 2010).
iv. Trade secrets: The basis for a trade secret is to protect a product without its registration i.e without procedural formalities and this ground rests "on the commercial value of the matter on the claimant." (Wipo.int, 2018)

Indigenous TK includes knowledge and identification of specific plants and their properties, harvest practices, the mythos (superstitions and traditional stories) surrounding the traditional use of the plant/product, the rites and practices they are used for (Masango, 2010). Rites, rituals, and mythos cannot be protected under IP laws but the knowledge that is up for protection is that which deals with the specific use of the plant, plant identification, side effects, etc. Masango (2010) illustrates scenarios in which indigenous TK can be protected under the above-mentioned categories for IP. For example, indigenous TK can be protected under patent protection facets because it deals with the financial exploitation of the medicinal properties of the indigenous plant by bioprospectors from other countries - as it was the case with the Khoi-San people of South Africa and the appetite suppressant/anti-obesity drug obtained from the Hoodai gordonii. The plants were claimed to possess anorectic effects in anecdotal evidence from traditional knowledge of the Khoi-San which prompted the South African Council of Scientific and Industrial Research (CSIR) to hop on the opportunity to market this potentially profitable product. A product called 'P57' was patented by the CSIR and then the licence sold to English company, Phytopharm in 1997. The patent was then sold to American giant Pfizer pharmaceuticals for $25 million dollars in 2002 all the while excluding the indigenous people of the Kalahari from participating in important conversations and negotiations and only became aware of the success of the plant product though foreign media coverage (Masango, 2010). The Khoisan, after many years of negotiations and legal battle with Pfizer, ultimately signed a benefit-sharing agreement with the CSIR in 2004 where the CSIR agreed to pay the Khoi-San 8% of all milestone payments it receives from Phytopharm (UK) and an additional 6% of all royalties that the CSIR receives once the drug is made commercial (Sciencedirect.com, 2010). The CSIR also agreed to involve the local community in future bioprospecting studies and provide them with study bursaries and scholarships to better educate and develop their space (Sciencedirect.com, 2010). Patent protection can thus benefit indigenous communities such as the Khoi-San community in that it is able to provide them with an avenue for recognition and compensation for knowledge that was unethically acquired and used by a competing entity.
When looking at the bigger picture, the successful benefit sharing agreement between the CSIR and the Khoi-San is an important milestone in the very intricate system of patent exclusivity and biopiracy because it showed that

despite the law supporting the legality of the exclusive sale and profiteering of the Hoodai plant by international companies, the CSIR was able to acknowledge the perspective of the Khoi-San in that they had a legitimate claim to the original knowledge database on the plant and its use. This illustrates a degree of self-awareness on the part of the CSIR and the members of the indigenous community, to come to a mutual understanding of their common goal (i.e. recognition and profit from knowledge) and form a relationship that can facilitate mutual benefit to that common end. This agreement ensures that the local community and the equally important environment that supports it are given the right to self-development, dignity in how they and their environment are treated, respect for their long history, their traditions and, of course, the traditional knowledge of their local medicinal plant life. It serves as an example of post-humanistic ethics carried out within the South African legal framework. This could suggest that this new philosophical ontology has the potential to shape policies that often-marginalized indigenous practitioners of TK around the world and can provide them with a more inclusive platform to contribute to modern medicine and benefit from the success of potential breakthroughs (Masango, 2010).

Conclusion

In practice, posthumanist ontology is viewed as a relational responsibility to the community and their environment (Datta, 2016). Thus, any entities that seek to utilize the indigenous plant knowledge of an area must first develop a relationship with the environment/resource they wish to investigate. This is best done with the aid of persons that have an already established relationship with the environment such as indigenous community healers, village chiefs, elders and traditional doctors. They must be recognized as part of the indispensable human resource team that is required for bioprospecting and novel drug discovery R&D. It is thus important that the sentiments for their culture and practices be respected and their contributions acknowledged in the research endeavor and adequately compensated for. Utilizing post-humanism in modern science is a challenging concept to materialize but one that can be overcome through traditional community-based science education where the goal is to reconfigure the mentality and attitudes we have towards nature and natural resources in a way that also appreciates diversity and honors the relationships between various participants (human and the non-human) looking to exists in a common space (Datta, 2016). This very last quotation can be a legacy for educators, philosophers and scientists worldwide, as it can inspire them to be and make others aware of this challenge in modern world because that manifests educated behaviour and ethical attitude towards culture/other cultures and natural resources.

References

Alexander, L., & Moore, M. (2016). *Deontological Ethics*. Retrieved from https://plato.stanford.edu/entries/ethics-deontological/

Amusan, L. (2014). The plights of African resources patenting through the lenses of the World Trade Organisation: An assessment of South Africa's rooibos tea's labyrinth journey. *African Journal of Traditional, Complementary and Alternative Medicines, 11*(5), 41-47.

Anzinger, D. (2004). *Ethics and Natural Resources*. Retrieved from https://courses.ecampus.oregonstate.edu/for365/two/EthicsandNaturalResources.htm

Apps.who.int. (2018). *Introduction to Drug Utilization Research: Chapter 4: Economic aspects of drug use (pharmacoeconomy): 4.5 Cost-benefit analysis*. Retrieved from http://apps.who.int/medicinedocs/en/d/Js4876e/5.5.html

Azétsop, J., & Rennie, S. (2010). Principlism, medical individualism, and health promotion in resource-poor countries: can autonomy-based bioethics promote social justice and population health? *Philosophy, Ethics, and Humanities in Medicine, 5*(1), 1-10.

Baker, A. (1997). *Social pluralism*. Australia: A. J. Baker.

BBC News. (2012). *GlaxoSmithKline 'guilty of fraud'*. Retrieved from https://www.bbc.com/news/av/world-18684350/glaxosmithkline-to-pay-3bn-in-us-drug-fraud-scandal

Berwyn B. (2018). *This Summer's Heat Waves Could Be the Strongest Climate Signal Yet*. Retrieved from https://insideclimatenews.org/news/27072018/summer-2018-heat-wave-wildfires-climate-change-evidence-crops-flooding-deaths-records-broken

Bible Gateway. (2019). *Bible Gateway passage: Genesis 1:28 - New International Version.* Retrieved from https://www.biblegateway.com/passage/?search=Genesis+1%3A28&version=NIV

Bittencourt, R., & Takahashi, R. (2018). Cannabidiol as a therapeutic alternative for post-traumatic stress disorder: from the bench research to confirmation in human trials. *Frontiers in Neuroscience*, 12, article 502. https://doi.org/10.1186/1747-5341-5-1

Biomedcentral.com. (2018). *Biomedical Central*. Retrieved from https://nutritionj.biomedcentral.com/submission-guidelines/peer-review-policy

Bolter, J. (2016). Posthumanism. *The International Encyclopedia of Communication Theory and Philosophy* (pp. 1-8). https://doi.org/10.1002/9781118766804.wbiect220

Brennan, A., & Lo, Y. (2002). *Environmental Ethics*. Plato.stanford.edu. Retrieved from https://plato.stanford.edu/entries/ethics-environmental/

Burger, J. (2009). Defining culture in Animals. The Question of Animal Culture. Kevin N. Laland and Bennett G. Galef (Eds), Harvard University Press, 2009. *BioScience*, 59(11), 1001-1002.

Canda, B., Oguntibeju, O., & Marnewick, J. (2014). Effects of consumption of rooibos (Aspalathus linearis) and a rooibos-derived commercial supplement on hepatic tissue injury bytert-butyl hydroperoxide in Wistar Rats. *Oxidative Medicine and Cellular Longevity*,1-9.

Carroll, A. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons, 34*(4), 39-48.

Cheikhyous, A., Mapaure, I., & Shapi, M. (2011). The use of some indigenous plants for medicinal and other purposes by local communities in Namibia with emphasis on Oshikoto region: A review. *Research Journal of Medicinal Plant, 5*(4), 406-419.

Climate Change: Vital signs of the planet. (2018). *Climate Change Causes: A Blanket around the Earth.* Retrieved from https://climate.nasa.gov/causes

Collinsdictionary.com. (2018). *World view definition and meaning/Collins English Dictionary*. Retrieved from https://www.collinsdictionary.com/dictionary/english/world-view

Datta, R. (2016). How to practice posthumanism in environmental learning: Experiences with North American and South Asian indigenous communities. *IAFOR Journal of Education*, *4*(1), 52-67.

Deakin.edu.au. (2016). *Why Reference?* Retrieved from http://www.deakin.edu.au/students/studying/study-support/referencing/why-reference

Debbarma, M., Pala, N., Kumar, M., & Bussmann, R. (2017). Traditional knowledge of medicinal plants in tribes of Tripura in Northeast India. *African Journal of Traditional, Complementary and Alternative Medicines, 14*(4), 156-168.

Decosterd, L., Parsons, I., Gustafson, K., Cardellina, J., McMahon, J., Cragg, G., Murata, Y., Pannell, L., & Steiner, J. (1993). HIV inhibitory natural products. 11. Structure, absolute stereochemistry, and synthesis of conocurvone, a potent, novel HIV-inhibitory naphthoquinone trimer from a Conospermum sp. *Journal of the American Chemical Society*, *115*(15), 6673-6679.

Di, R., & Tumer, N. (2015). Pokeweed antiviral protein: Its cytotoxicity mechanism and applications in plant disease resistance. *Toxins, 7*(3), 755-772.

Domashevskiy, A., & Goss, D. (2015). Pokeweed antiviral protein, a ribosome inactivating protein: Activity, inhibition and prospects. *Toxins, 7*(2), 274-298.

Draaisma, D. (2017). Perception: Our useful inability to see reality. *Nature*, *544*(7650), 296-296.

Elsevier.com. (2018). *What Is a Peer Review?* Retrieved from https://www.elsevier.com/reviwers/what-is-peer-review

Fanzo, J. (2015). Ethical issues for human nutrition in the context of global food security and sustainable development. *Global Food Security*, 7, 15-23.

Farooq, I. (2015). Lengthy peer review times: What should be done? *International Journal of Emergency Mental Health and Human Resilience*, *17*(2), 485.

Forlano, L. (2017). Posthumanism and design. *She Ji: The Journal of Design, Economics, and Innovation*, *3*(1), 16-29.

Forbes. (2017). *The 10 Companies with The Best CSR Reputations in 2017*. Retrieved from https://www.forbes.com/sites/karstenstrauss/2017/09/13/the-10-companies-with-the-best-csr-reputations-in-2017/#22bc4b1d546b

Gillon, R. (1994). Medical ethics: four principles plus attention to scope. *BMJ*, *309*(6948), 184-188.

Glenza, J. (2018). *Nestlé pays $200 a year to bottle water near Flint – Where water is undrinkable*. Retrieved from https://www.theguardian.com/us-news/2017/sep/29/nestle-pays-200-a-year-to-bottle-water-near-flint-where-water-is-undrinkable

Hamilton, C. (2006). Biodiversity, biopiracy and benefits: what allegations of biopiracy tell us about intellectual property. *Developing World Bioethics*, *6*(3), 158-173.

Hamilton, C. (2008). Intellectual property rights, the bioeconomy and the challenge of biopiracy. *Genomics, Society and Policy*, *4*(3), 26-45.

Hpcsa.co.za. (2016). *General Ethical Guidelines for the Healthcare Professions.* Retrieved from http://www.hpcsa.co.za/Conduct/Ethics

Hpcsa.co.za. (2018). *Overview - HPCSA*. Retrieved from http://www.hpcsa.co.za/Professionals

Hutchens, A. (1991). *Indian herbalogy of North America*. Boston: Shambhala.

Institute for Healthcare Improvement. (2019). *Pareto Chart*. Retrieved from http://www.ihi.org/resources/Pages/Tools/ParetoDiagram.aspx

Jahanbegloo, R., & Parekh, B. (2011). *Talking Politics.* Oxford University Press.

Joubert, E., & de Beer, D. (2011). Rooibos (Aspalathus linearis) beyond the farm gate: From herbal tea to potential phytopharmaceutical. *South African Journal of Botany*, *77*(4), 869-886.

Jordaan, B. (2001). *The protection of indigenous medical knowledge: a critical analysis*. Retrieved from http://hdl.handle.net/20.500.11892/ 164365

Knapp, S., Gottlieb, M., Berman, J., & Handelsman, M. (2007). When laws and ethics collide: What should psychologists do? *Professional Psychology: Research and Practice, 38*(1), 54-59.

Komakech, R., Kang, Y., Lee, J., & Omujal, F. (2017). A Review of the Potential of Phytochemicals from Prunus africana (Hook f.) Kalkman Stem Bark for Chemoprevention and Chemotherapy of Prostate Cancer.

Evidence-Based Complementary and Alternative Medicine (pp.1-10). https://doi.org/10.1155/2017/3014019

Kopnina, H., Washington, H., Taylor, B., & Piccolo, J. (2018). Anthropocentrism: More than just a misunderstood problem. *Journal of Agricultural and Environmental Ethics*, *31*(1), 109-127.

Korsgaard, C. (2004). Fellow creatures: Kantian ethics and our duties to animals. *Tanner Lectures on Human Values*, *24*, 77-110.

Kozhikode, R., & Li, J. (2012). Political pluralism, public policies, and organizational choices: Banking branch expansion in India, 1948–2003. *Academy of Management Journal, 55*(2), 339-359.

Kumar, V., & Navaratnam, V. (2013). Neem (Azadirachta indica): Prehistory to contemporary medicinal uses to humankind. *Asian Pacific Journal of Tropical Biomedicine, 3*(7), 505-514.

Kurapati, K., Atluri, V., Samikkannu, T., Garcia, G., & Nair, M. (2016). Natural products as anti-HIV agents and role in HIV-associated neurocognitive disorders (HAND): A brief overview. *Frontiers in Microbiology*, 6. https://doi.org/10.3389/fmicb.2015.01444

Laal, M. (2009). A brief history of enviroethics and its challenges. *Journal of Medical Ethics and History of Medicine, 2*(10), 1-5.

Laland, K., & Hoppitt, W. (2003). Do animals have culture? *Evolutionary Anthropology: Issues, News, and Reviews, 12*(3), 150-159.

Le Blanc, J. (2009). *Medical Autonomy and Vaccines: A Kantian Imperative – Hektoen International*. Retrieved from https://hekint.org/2017/01/30/ medical-autonomy-and-vaccines-a-kantian-imperative/

Luck, M., & d'Inverno, M. (1995). A formal framework for agency and autonomy. In *First International Conference on Multi-Agent Systems* (pp. 254-260). Retrieved from https://nms.kcl.ac.uk/michael.luck/resources/ icmas95.pdf

Mack, P. (2004). Utilitarian ethics in healthcare. *International Journal of The Computer, the Internet and Management, 12*(3), 63-72. Retrieved from http://www.ijcim.th.org/past_editions/2004V12N3/ijcimv3n1_article6.pdf

Mandal, J., Ponnambath, D., & Parija, S. (2016). Utilitarian and deontological ethics in medicine. *Tropical Parasitology, 6*(1), 5.

Masango, C. (2010). Indigenous traditional knowledge protection: Prospects in South Africa's intellectual property framework? *South African Journal of Libraries and Information Science, 76*(1), 74-80.

May, A. (2018). *SA at the forefront of HIV/Aids research/Cape Argus*. Retrieved from https://www.iol.co.za/capeargus/news/sa-at-the-forefront-of-hivaids-research-15117670

McClatchey, W., Mahady, G., Bennett, B., Shiels, L., & Savo, V. (2009). Ethobotany as a pharmacological research tool and recent developments in CNS-active natural products from ethobotanical sources. *Pharmacology & Therapeutics*, *123*(2), 239-254.

McIntosh, M. (2018). *Looking at Culture: Symbolism, Adaptation, and Ideology*. Retrieved from http://brewminate.com/looking-at-culture-symbolism-adaptation-and-ideology/

Mondal, S., Bandyopadhyay, S. K., Ghosh, M., Mukhopadhyay, S., Roy, S., & Mandal, C. (2012). Natural products: promising resources for cancer drug discovery. *Anti-cancer Agents in Medicinal Chemistry, 12*(1), 49-75.

Morrison, E., & Furlong, E. (2009). *Health Care Ethics: Critical Issues for the 21st Century* (2nd ed., pp. 47-63). Jones & Bartlett Learning.

Musgrave, M. (2016). African Customary Law in South Africa. Post-Apartheid and Living Law Perspectives by C. Himonga and T. Nhlapo (Eds.). 2015. Cape Town: Oxford University Press Southern Africa. *International Journal of the Commons, 10*(2),1205.

Nahra, C. (2014). *The Harm Principle and the Greatest Happiness Principle: The Missing Link*. Retrieved from http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-512X2014000100006

Naoum, V., Kyriopoulos, D., Charonis, A., Athanasakis, K., & Kyriopoulos, J. (2016). The Pareto principle ("80−20 Rule") in healthcare services in Greece. *Value in Health, 19*(7), A618.

Narayanaswany, V. (1981). Origin and development of Ayurveda (A brief history). *Ancient Science of Life, 1*(1), 1-7.

Nortjé, N., & Hoffmann, W. (2015). Ethics misconduct among dietetic practitioners in South Africa (2007-2013). *South African Journal of Clinical Nutrition, 28*(2), 77-80.

Open.edu. (2018). *Study Session 1: Human Interactions with the Environment*. Retrieved from http://www.open.edu/openlearncreate/mod/oucontent/view.php?id=79926&printable=1

Pharmacouncil.co.za. (2011). *SAPC - South African Pharmacy Council.* Retrieved from https://www.pharmcouncil.co.za/g_publicationsc.asp

Pouris, A., & Inglesi-Lotz, R. (2014). The contribution of higher education institutions to the South African economy. *South African Journal of Science, 110*(3/4), 1-5.

Professional Board of Dietetics and Nutrition. (2006). *Rules of Conduct Pertaining Specifically to the Profession of Dietetics*. Pretoria, South Africa.

Ramdas, V. (2017). *Ethics and Law in the Practice of Health Professions. Retrieved from* http://www.gauteng.gov.za/campaigns/AntiCorruptionPresentations/Viraj%20Ramdas-%20Ethics%20and%20Law%20in%20the%20Practice%20of%20%20Health%20Professions%20Gauteng%20Nov%202017.pdf

Recognition of Customary Marriages Act no. 120 OF 1998 (as amended). Retrieved from http://www.justice.gov.za/legislation/acts/1998-120.pdf

Rosenberg, G. (2001). *A Pluralist Democracy.* Retrieved from https://www.eurozine.com/a-pluralist-democracy/

Roy, E. (2018). *New Zealand river granted same legal rights as human being*. Retrieved from https://www.theguardian.com/world/2017/mar/16/new-zealand-river-granted-same-legal-rights-as-human-being

Ryan, J. (2014). Towards an ethics of reciprocity: Ethnobotanical knowledge and medicinal plants as cancer therapies. *Humanities, 3*(4), 624-644.

Santini, A. (2018). The importance of referencing. *The Journal of Critical Care Medicine, 4*(1), 3-4.

Sciencedirect.com. (2010). *Hoodia gordonii - an overview*. Retrieved from https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/hoodia-gordonii

Sciencedirect.com. (2018). *Rauvolfia serpentina – an overview. ScienceDirect Topics.* Retrieved from https://www.sciencedirect.com/topics/medicine-and-dentistry/rauvolfia-serpentina

Smith, P. (2014). *How can universities contribute to social change?* Retrieved from https://www.britishcouncil.org/voices-magazine/how-can-universities-contribute-social-change

South African Pharmacy Council (2008). *Rules relating to the Code of Conduct*. Pretoria: Government gazette,1-15.

South African Rooibos Council (2017). *South African Rooibos Council: Annual Report*. Retrieved from https://sarooibos.co.za/wp/wp-content/uploads/2018/06/2017-SARC-Annual-Report_20180628.pdf

South African San Institute (2017). *San Code of Research Ethics.* Cape Town: South African San Institute. Retrieved from http://trust-project.eu/wp-content/uploads/2017/03/San-Code-of-RESEARCH-Ethics-Booklet-final.pdf

Straus, J. (2017). Intellectual property rights and bioeconomy. *Journal of Intellectual Property Law & Practice, 12*(7), 576-590.

Student.unsw.edu.au. (n.d.). *Why is Referencing Important? Retrieved from* https://student.unsw.edu.au/why-referencing-important

Tedlock, B. (2006). Indigenous heritage and biopiracy in the age of intellectual property rights. *EXPLORE: The Journal of Science and Healing, 2*(3), 256-259.

Three Minute Philosophy: Immanuel Kant. (2009). Retrieved from https://www.youtube.com/watch?v=xwOCmJevigw

Time. (2016). *Retrieved from* http://time.com/4461874/change-the-world-companies-fortune/

Un.org. (2018). *Climate Change*. Retrieved from http://www.un.org/en/sections/issues-depth/climate-change/

Valen, R., Fretheim, A., Kiserud, T., Bjertness, E., Grudt, S., & Måseide, K. (2011). *How Can Research Contribute to Better Global Health?* Retrieved from https://tidsskriftet.no/en/2011/10/how-can-research-contribute-better-global-health

van Wyk, B., & van Staden, J. (2002). A review of ethnobotanical research in southern Africa. *South African Journal of Botany, 68*(1), 1-13.

van Wyk, B., de Wet, H., & Van Heerden, F. (2008). An ethnobotanical survey of medicinal plants in the southeastern Karoo, South Africa. *South African Journal of Botany, 74*(4), 696-704.

Velamuri, S., & Venkataraman, S. (2007). Why stakeholder and stockholder theories are not necessarily contradictory: A knightian insight. *SSRN Electronic Journal*.

Villavicencio Calzadilla, P. (2017). Climate justice: Case studies in global and regional governance challenges (Environmental Law Institute Washington DC 2016). *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad, 20*, 1.

Visser, J., & Van Zyl IV, C. (2016). Legal ethics, rules of conduct, and the moral compass – considerations from a law student's perspective. *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad, 19*, 1.

Voigt, M., & Hoogenboom, B. (2012). Publishing your work in a journal understanding: The peer review process. *The International Journal of Sports Physical Therapy, 7*(5), 452-460.

Whatmore, S. (2006). Materialist returns: practising cultural geography in and for a more-than-human world. *Cultural geographies, 13*(4), 600-609.

White, R. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*(5), 297-333.

Wipo.int. (2006). *Resolving IP Disputes through Mediation and Arbitration*. Retrieved from http://www.wipo.int/wipo_magazine/en/2006/02/article_0008.html

World Medical Association. (2019). *World Medical Association: International Code of Medical Ethics*. Retrieved from https://www.wma.net/policies-post/wma-international-code-of-medical-ethics/

Xavier, T., Kannan, M., Lija, L., Auxilla, A., Rose, A., & Kumar, S. (2014). Ethnobotanical study of Kani tribes in Thoduhills of Kerala, South India. *Journal of Ethnopharmacology, 152*(1), 78-90.

Yumatle, C. (2016). Review of Jacob Levy's rationalism, pluralism, and freedom. *SSRN Electronic Journal*.

sciendo

Acta Educationis Generalis
volume 9, 2019, issue 2

DOI: 10.2478/atd-2019-0008

Comparison of Teachers' Opinions on Inspections

Ján Bajtoš*

Received: April 27, 2019; received in revised form: June 23, 2019;
accepted: June 24, 2019

Abstract:
Introduction: The quality of school depends on a well-functioning school management, managed by the top school managers. It is very important to know the real conditions of the school to be able to provide any effective changes. Especially, it is necessary to know the educational process which can be efficiently determined by an inspection process. The inspection process is present in current pedagogical science and in pedagogical practice which deserves increased attention of all participants in the educational process.
Methods: The study is based on a theoretical analysis of the presented issues and on a research. The findings were analysed, compared, and conclusions were drawn for school practice. We used the following research methods:

- content analysis of the existing literature;
- the quantitative method of gathering data by the medium of a twelve-item questionnaire containing four closed and eight semi-open questions. The questionnaire contained data necessary to process and evaluate the questionnaire, these were inserted as the last question;
- statistical data processing methods.

Results: New times bring a new style of management and a new understanding of the inspecting activity, which creates a partnership between the student and the teacher. It is to promote mutual understanding between them, based on the principles of democracy. Innovations in the educational practice also affect the realization of inspecting activities. The aim of managers, as well as inspectors, is to promote inspections not only as a tool for evaluating the teaching process but also as methodological help for teachers. The goal of our research was to map the state of the inspecting activity in selected high schools and to find out about the changes in teachers' opinions on inspecting activities over the twenty-year horizon. We cannot generalize our findings for schools of all kinds as only 88 respondents (44 respondents participated in the 1998 research and 44 respondents in the 2017 research) took part in our research.
Discussion: Managing the educational process and taking the responsibility for its quality are among the basic duties of the school

* Ján Bajtoš, DTI University, Department of School Didactics, Dubnica nad Váhom, Slovakia; bajtos@dti.sk

management and in the conditions of the Slovak Republic, as it follows from Act no. 596/2003 on state administration in education and school self-government as last amended. Supervising school leadership is one of the fundamental means of feedback that allows the study of the level of educational and training results, the fulfillment of the conceptual development of school, and the fulfillment of the tasks in the short-term school plan. The objective of the principal of the school is to obtain objective information about the level and the outcomes of the educational work of the school and, if deficiencies are identified, it is his/her duty to eliminate them. The most important task of the school is to implement the School Educational Program in line with the State Educational Program (SEP), which should take into account the needs of students, the interests of students and their parents, and contribute to improving the processes going on in the school, especially in the educational process. The research revealed that inspections conducted by school managers (the principal, deputies, administrators) are the most beneficial for the work of teachers. This fact was caused by the effort of the school managers to view inspections as a means of personal growth of teachers and not only as a controlling mechanism of teachers' work. This was also confirmed by the research showing that inspections by the members of school management are now clearly focused on emphasizing the positive aspect of teachers' work. This was caused by a shift in the inspectors' perception of the inspecting activities in the period of twenty years - they use them as a teacher-oriented tool.

Limitations: The number of participants in the research sample was one of the methodological limitations of this research. We cannot consider this number to be representative for the purpose of generalizing the results.

Conclusion: In this study, we realized a mutual comparison of attitudes and opinions of teachers regarding inspecting activities. This comparative study, taking into account the twenty-year time span, has shown that the inspectors (school managers) have acquired such methods of evaluating their teachers, which objectively refer of their actual performance, that the most beneficial inspections for teachers' own pedagogical work are the inspections conducted by the members of the school management, that the adherence to pedagogical ethics by the inspectors has an increasing tendency, and that formalism, as well as the subjective evaluation of teacher's work, have a downward tendency and have disappeared from the conclusions of inspections. Based on the research results, it can be concluded that, in the course of two decades, significant changes have taken place in the realization of inspections, both on the part of the inspectors and on the part of the teachers and their perception of inspections.

Key words: educational process, school management, inspection, quality of the educational process.

Introduction

Modern schools should lead their students towards critical thinking and should develop their problem-solving skills. Nowadays, in the context of education, there has been a permanent effort for improving the quality of provided education and modernization of schools. There are several ways and tools recommended by the European Union to help such modernization, e.g. Multidimensional Ranking Tools, Mobility Promotion Programs, development of School Partnership etc. The technological development has affected today's schools, especially having an impact on the cooperation among schools, which is mainly in the electronic form (email communication, teleports, and other on-line data transfers) and is faster, more efficient and less expensive as well as less time consumptive for the students, who are being referred to as the "Net-Generation". It is necessary to adjust the educational process in schools to these facts. Modern schools involve these qualities: open mindedness, accessibility; flexibility; diversity; quality; cooperation with the public administration, or the private sector; innovation; engagement and cooperation with local or regional associations; competitiveness, measurability; presence, i.e. it means to be there, where there are more parties: school applicants, students, graduates; for example, Facebook, Twitter etc.

In the study, it is demonstrated how the inspectors (e.g. a school principal) could directly affect the quality of their school, and also summarize and organize basic knowledge and experiences about the inspection aimed at the development and the personal growth of teachers. Last but not least, it is one of our goals to present the results of our research, where the aim is to compare the attitudes and opinions of teachers of the selected type of school on the inspection process over a period of twenty years. The aim of the study is to provide readers with the basic information on inspections in relation to improving the quality of the educational process and to offer suggestions on how to solve and conduct the inspection process in specific school practice.

1 Analysis of the quality of the educational process

Even the influence of positive psychology has infiltrated into the current modern schools, which brings about new views on education, ourselves, the world around us (Seligman, 2003). A positive model of school is being built, one that supports the advantages and potentials of students by developing their talents and skills to improve the quality of their life in and outside the school. In such schools we can observe changes in their philosophy, a shift from eliminating negative features to developing the best qualities of school, as well as the people inside it. A positive model of schools focuses on an effective diagnostics of students, on uncovering their positive personality features and characteristics, on determining their motivation and long term aspirations, professional preferences and mapping their general and particular intellectual potentials. Positive

psychology cultivates students' personalities, especially their intra-mental qualities related to creativity, happiness, positive emotions and regulations of their own lives. Seligman (2003) defines the word "happiness" as joy, a flow (a feeling of happiness that a student may experience when being engaged in creative work, while the student is involved in something at school), cheerfulness, pleasure, satisfaction, serenity, and hope. Positive emotions must be strengthened in secondary school students especially as they enhance the cognitive, physiological, emotional and social aspects of students. Seligman also points out the importance of setting an individual into optimistic level, what encourages students in overcoming obstacles, e.g. in learning. By this means, the students will neither look for excuses nor resign. Here, we can mention Cognitive Learning (Anderson & Krathwohl, 2001), a new trend in teaching students, based on the research in cognitive psychology.

In an effort to achieve a high school quality, it is necessary to possess knowledge and following analysis of the education process (Kmecová, 2018). Current international trends support the analysis of the educational process, because the quality of this process directly determines the students' achievement. It is possible to find ways of improving the quality and making the educational process more efficient by a thorough analysis of relations in the educational process. The final goal of a structural didactical analysis necessary for managing the education process is the knowledge of the teacher's skills (Siváková, 2016). An instrument for analyzing the quality of education process is a kind of pedagogical observation - the so called inspection. In contrast to some other countries, little attention is paid to this matter, which results in stagnation, even a decline in the quality of the educational process. It is true that school managers are led to conducting inspections, but usually such activity is either underestimated or formalized. The platform for analysis and evaluation of the teaching process is to know the criteria of good teaching. It is quite difficult to unambiguously assess the criteria of good teaching, as these are influenced by several factors. According to G. Rötling (1996), the basic elements of the model of good teaching are:

- conditions for teaching,
- teacher's knowledge and experiences,
- activity of a teacher in the teaching/learning process,
- final results of teaching/learning.

2 Inspections in the educational process

The use of inspections in the education process is a tool for systemic evaluation of the education process, except for some other methods (e.g. testing students, increasing the adequacy and topicality of the subject matter, etc.). Inspections are a valuable source of information about the quality of education, based on which we can obtain an immediate (live, experienced) and true (acknowledged

by the inspection authority and captured by the reaction of students) knowledge about the true quality and the method of carrying out the education process, about the behavior of the teacher and his/her students at the lesson etc. The term "inspection" has developed over the years from more or less substantive definitions to a very strict scientific definition applied in the current pedagogical theory and practice.

In the Pedagogic Dictionary by the authors J. Průcha, E. Walterová, and J. Mareš (1998), inspection is defined as "visiting a lesson, aiming to know the state and level of the educational work." One of the preconditions for being successful at managing a school is gathering information. The development of the ways and methods of gathering information about the educational process was in the past and still is - even now at the times of humanization and democratization of our education - fairly underrated. Mainly because the managing pedagogical workers have difficulties in gathering exact data about the educational process as well as their evaluation. Yet, little preparation and little experience with this activity does not absolve them from the obligation to find out about the results of the educational process in schools.

One of the methods of gathering information about the quality of the educational process is conducting inspections. From the methodological point of view, it is one of the methods of observation, i.e. direct sense perception, perception of the educational features, which leads to uncovering important connections, relations and patterns (Bajtoš & Kašaiová, 2018). Among the characteristic features of observation are: focus on a particular goal, then resolution, objectivity, i.e. assessing criteria of evaluation and interpretation of the observed effects; and recording the results. It is not only about the observation for the purpose of describing a given situation, but mainly about the understanding and interpretation of the core of the observed pedagogical effects.

From the above mentioned it appears that the basic precondition for a proper inspection process is its preparation (planning), where the observer must answer the following questions: What do I observe? Why do I observe it? How to make my observation reliable? After detailed planning, the observer is able to exactly and truly record what was observed and eliminate subjective impressions and opinions. A well planned and correctly carried out inspection contains the basic elements of the observation method, i.e. representativeness of the analyzed sample, objectivity, reliability and consistence. It can be stated, that it fulfills its basic function as one of the components in the system of pedagogical management of the work in a school. It enables gathering basic and important information about the pedagogical activities of a teacher and of the pedagogical work in the whole educational institution. The more exact and objective the information gathered throughout an inspection activity are, the more effective the management of the pedagogical process in the school is. The observation method is used during the inspection activity. The focus is on the didactic

indicator of the quality of the educational process, i.e. the quality of teaching (efficiency of the teacher's activities) and on the quality of learning by students (efficiency of students' activities, level of knowledge, skills and abilities, study results). This means that the quality of the educational process is monitored not only formally, but in real, and in the case of serious shortcomings (delay at lessons, infringement of the curriculum, low quality of teaching, insufficient knowledge of students, etc.), the teacher must face consequences drawn from the observations.

It is not the aim of the observations to gather impressions and opinions, or any other subjective information, it is necessary to transform it into true and objective information. It is important to realize that gathering such information is very difficult and time consuming. It demands a transformation from empirically gathered information, i.e. capture of individual experience to information of descriptive character, i.e. information gathered by comparison and evaluation, to information causal, declarative, which enable to understand a causal connection and applicable effect. The aim and purpose of inspections is the cognition of pedagogical situation in the teaching/learning process in a particular educational institution, or the pedagogical activity of a teacher. Only this kind of cognition can be the starting point for efficient management of the pedagogical work in a school and of the teaching/learning process. Inspections have several advantages when compared with other forms and sources of gathering information. Among the most important are (Bajtoš, 1996):

- spontaneity of an observed situation,
- direct participation in the lesson,
- accessibility,
- independence of knowledge and abilities of respondents,
- relatively higher objectivity.

Nowadays, in the period of development of information-communication technologies, we come across the term virtual inspection. It means watching a video-recording of a lesson taught by another teacher. There are many websites, where we can find similar recordings of authentic lessons and anyone can become an observer of such lessons. One of the disadvantages of a virtual inspection lies in the fact, that it only offers a part of what is happening in the classroom, thus, it is impossible to make a complex picture of the situation. A virtual inspection does have advantages as well, such as the possibility to pause and rewind the recording (Bajtoš & Kašaiová, 2018).

Each organized activity has its own specific structure. This concerns the inspection process as well. Various recommended stages (phases) of the inspection cycle can be found in the literature on the inspection process. Based on the recommendations of J. Bajtoš (1996) and based on our own observations

of the inspection process, we suggest using the following phases of the inspection process:

- Impulse to conduct inspection. Let's assume that each inspection fulfills all the criteria and principles of the observation method - a human approach to the evaluation activity of a teacher and sufficient pedagogical tact. Usually, among the typical impulses for carrying out an inspection belongs the inner responsibility of the school managers for the quality of the educational process in their schools. The inspection should be reported in advance, in order not to impair friendly relations among colleagues. The situation may become much more uncomfortable, when the impulse to carry out an inspection is based on outer impulses, e.g. complaints by students, parents, or colleagues. For school managers, the author strongly recommends to adjust external stimuli to the framework of a particular teacher's further personality development. There are also cases, when the impulse to an inspection comes from a teacher him/herself, usually, when there is a problem and the teacher is unable to solve it.
- Preparation for inspection and a pre-inspection interview. The inspector should be always well prepared before each inspection. Preparation means being familiar with the basic pedagogical documents (school curriculum), with textbooks and the content of the lesson, as well as the psychological-pedagogical principles, which will be observed and controlled in the teacher's work. The inspector should find the time needed to make a pre-inspection interview with the observed teacher. In an informal dialogue, it is important to find out, what the aim and the content of the lesson is, and what topic it will follow. Such an interview serves for determining the basic information about the class, about the students' level of knowledge, about the atmosphere in the inspected class.
- Observation of the teaching/learning process. The period of observing the teaching/learning process is the most difficult technical phase. In order to gather objective, true and undistorted information for directing a teacher's work, own subjectivity must be eliminated. The process can be successful only if the observing person gets familiar with the methodological knowledge of observing pedagogical effects. The inspection, as well as any other scientific method for gathering information, must be well-trained. One of the preconditions for a successful observation is the compliance and execution of requirements of a proper observation: healthy and efficient senses; concentration and focusing on the observed matter; ability of fine qualitative differentiation of observed effects; ability to conduct adequate exact estimates; elimination of bad influences (tiredness, anger, conflicts, illness…); execution of exact records from observation; ability to perceive the observed effects without prejudices or illusions. It is necessary to introduce and explain the role of the inspector truly and acceptably to the

students in the class. The question whether the students are introduced to this matter by the teacher or the inspector is an issue of the pre-inspecting interview. It is essential to use any technique that helps to ease the stress in the classroom during the inspection. When the teacher starts the teaching process, the inspector should keep calm and not disturb the process of teaching. The aim is to observe the typical classroom life and the work of the teacher under normal circumstances. It is appropriate to use a structured observation for observing the activity of the teacher and students in a controlled space, e.g. in a classroom. As this term suggests, the inspector uses fragmented and structured categories of effects. It is possible to prepare an observing tool for such a kind of activity including an exact description and rules on how to identify these effects, how to record and how to evaluate them. This approach helps the objectification of the pedagogical observation (Rötling, 1996).

- Post-inspection interview. A post-inspection interview serves to add information and data, which the inspector was not able to gather during the observation of the educational process or those, which are not available at the time of inspection. By means of the post-inspection interview, all necessary information is gathered. Leading of a post-inspection procedure cannot be coincidental but it must respond to the rules and knowledge that have been empirically acquired and theoretically processed.
- Summary and deduction of the inspection. An inspection is not only a controlling activity, but a kind of cooperation between the inspector and the teacher. The more the teacher trusts the inspector and the more the teacher is persuaded about the objectivity, truth and efficiency, the higher the success of the inspection process is. The deduction must therefore be a result of a responsible and detailed analysis of all the gathered data and information. It is necessary to keep out of subjectivism.

3 Comparison of research in order to find out about the teachers' opinions on inspections

The motivation to carry out a research on the inspecting activity in high schools was the authors' interest in this matter and the absence of similar research comparing the opinions of teachers in a time sequence of 20 years in the conditions of Slovak education (Bajtoš & Kašaiová, 2018). We were interested if there have been any changes in the inspecting activity in particular schools from the teachers' point of view within the period of 20 years.

3.1 Goals of the research

The goal of the research was to find out and to compare the opinions on the inspecting activity in selected high schools in two time periods. The first research was carried out in 1998 and the other one in 2017. We analyzed and

compared the inal results of the research focused on determining the opinions on inspecting activities. The main goal of the research was divided into the following partial goals:

- To find out what kinds of inspections are considered the most beneficial for teachers' pedagogical work.
- To determine if the ethics is performed in relation to teachers and the teachers accepting inspections.

3.2 Methodology and organization of the research

The research was conducted in two high schools in Slovakia, in the county of Trebišov and was realized based on the quantitative method of gathering data by means of a twelve-item questionnaire containing twelve questions (statements), among which four were closed and eight were semi-open. The questionnaire contained data necessary to process and evaluate the questionnaire, these were inserted as the last question. The teachers were asked by the principals of schools to fill in the questionnaire. The research was conducted in June 1998 and in December 2017. The authors attempted to get the same number of respondents in the selected high schools in 2017 as previously in 1998. The return rate of the questionnaires was 68.13% in 1998 and 88.00% in 2017.

3.3 Results of the research and their interpretation

3.3.1 Benefits of particular types of inspections for the pedagogic work of a teacher

To find out about the benefits of particular types of inspections for pedagogic work of a teacher, we received answers to the bellow questions included in the questionnaire.

Table 1

Question number 4: State, which types of inspections prevail at your school (you can choose more alternatives):

Available options		*1998* Frequency		*2017* Frequency	
		Absolute	*Relative*	*Absolute*	*Relative*
a	None	0	0.00	0	0.00
b	By the school managers (principal, vice principal)	43	53.09	43	38.05
c	Mutual (among colleagues teaching the same or similar subjects)	12	14.81	20	17.70

d	Of new/beginning teachers	21	25.93	26	23.01
e	By experienced teachers	5	6.17	24	21.24
f	Other	0	0.00	0	0.00

In both inquiries, inspections carried out by school managers were marked by the respondents as the most beneficial. In 1998, 53.09% of respondents expressed this opinion and, in 2017, it was as much as 38.05% of respondents. In the research from 2017, we recorded an increase in the benefits of inspections carried out by experienced teachers by 15.07% as well as an increase of benefits of mutual inspections among colleagues by 2.89%. We assume that this was affected by the effort to see inspections as a way of the personal growth of a teacher - not only as a controlling mechanism of a teacher's work during the teaching unit. One of the most important issues in relation to personal growth is the inspections of novice teachers. In both inquires as much as one quarter of respondents expressed such an opinion. Each novice teacher needs to hear that the activities done and the effort put in the lessons are good. Sometimes, it is necessary to point out the negative aspects of their pedagogical activity. Hereby we suggest using a cooperative approach, which points out that even a novice teacher, as well as the inspector, are colleagues, however, their role is different, yet the experience of both of them is valuable. In practice, we may even use a combined approach, which is partly prescriptive and partly cooperative.

Table 2

Question number 6: The inspections by the head teacher at your school are:

Available options		*1998 Frequency*		*2017 Frequency*	
		Absolute	*Relative*	*Aabsolute*	*Rrelative*
a	None	0	0.00	0	0.00
b	Focusing on the teacher's faults (the evaluation is based on reproaching their failures)	15	29.41	5	11.36
c	Focusing on the positive aspects of the teacher's work (the teacher's strengths are emphasized)	31	60.79	37	84.09
d	Realized by the head teachers only because of the duty to do so	5	9.80	2	4.55
e	Other	0	0.00	0	0.00

The obtained data from the research show that inspections focus on the positive aspects of teachers' activities. In the research carried out in 1998, 60.79% of respondents were in favor of this opinion, in the research from 2017, even more respondents were of the same opinion, particularly 84.00%. It is necessary to point out that the inspections focusing on teachers' strengths have a positive impact on their development, and they increase the quality of their performance at work. In 20 years, there was a 23.30% increase in the orientation of inspections - focusing on the positive aspects of the teachers' work - and it seems that it is the result of the fact that the inspectors perceive inspections as a tool of the personal growth of teachers. The results of the 2017 survey show a significant drop in inspections focusing on failures by 18.05% compared to the results in 1998. Inspections oriented on the negative aspects of teachers' work can result in teachers' low self-esteem and fear from the next inspection, as well as to fear of failure. If it does not come to a change of such an approach to inspections, there will hardly occur a change in teachers' pedagogical activity. In such cases the teachers are less open to changes in their pedagogical activities.

Table 3

Question number 11: Order the kinds of inspection according to their benefit to you. The inspections are most beneficial, when they are conducted by:

Frequency of answers		*1998*	*2017*
		Frequency	
a	The principal, vice-principal of the school	1.85	1.93
b	The principal, vice-principal, if they teach the same subject	2.55	2.98
c	The chairman of the subject commission	1.50	1.86
d	A colleague with a long pedagogical experience	2.20	0.98
e	A colleague with a long pedagogical experience, when he/she teaches the same subject	2.80	2.25

The respondents indicated the order of the offered options from 1 to 5. We counted the frequency of each answer. It is obvious from the results that teachers prefer being inspected by a colleague with a long experience, when he/she teaches the same subject. From our experience, we know that it is easier to accept a potential criticism from a colleague than from a principal or a vice-principal. In 1998, this opinion was expressed by 2.80% of respondents. In the research from 2017, 2.98% of respondents preferred the idea of being inspected by the principal or vice-principal of the school, if they teach the same subject. The findings show that teachers consider inspections beneficial, if they are

conducted by an inspector, who teaches the same subject, no matter if it is someone from the school management or a colleague with a long experience in teaching.

3.3.2 Adherence to ethics by the inspector and acceptance of inspections by teachers

In order to identify the contribution of individual kinds of inspections to the pedagogical activity of teachers and to find out, if the ethics is being adhered to by the inspectors, we obtained answers to the following questions in our questionnaire.

Table 4

Question number 7: Do you think that when realizing an inspection, the pedagogical ethics is adhered to by the head teachers (early announcement about the inspection, no interruption of the teaching process, correct and professional evaluation, maintaining the partnership level)?

Available options		*1998* *Frequency*		*2017* *Frequency*	
		Absolute	*Relative*	*Absolute*	*Relative*
a	Yes, almost always	22	50.00	31	70.45
b	Yes, in most cases	16	36.36	12	27.27
c	Usually not	4	9.09	1	2.27
d	Almost never	2	4.55	0	0.00

The 1998 survey confirmed that the pedagogical ethics is "almost always" and "in most cases" respected by the inspectors. This opinion was expressed by 86.36% of the respondents. In the survey from 2017, 97.72% of the respondents believed that the pedagogical ethics is "almost always" and "in most cases" respected by the inspector. It follows from the above that adherence to ethics by inspectors has an increasing tendency and that the inspectors respect the teachers as equal partners. In both investigations that were carried out, there were also teachers who indicated that the inspectors did not follow the pedagogical ethics. In the 1998 survey, it was 13.64% of respondents, and in 2017 only 2.27% of respondents. In the work of head teachers, it is necessary to respect this partnership level and keep all the principles of ethics, because only by doing so can both the teachers and the inspector enjoy the mutual benefits of inspections.

Table 5

Question number 8: Based on your personal experiences with inspecting activities at your lessons carried out by the head teacher, do you think that head teachers carry out the inspections:

	Available options	*1998 Frequency*		*2017 Frequency*	
		Absolute	*Relative*	*Absolute*	*Rrelative*
a	Great, it is obvious, that they have mastered the principles of inspecting activities	22	50.00	31	70.45
b	With a few shortcomings	6	13.64	7	15.91
c	I cannot comment on this issue	15	34.09	6	13.64
d	With serious deficiencies	1	2.27	0	0.00
e	They have no idea about conducting inspections	0	0.00	0	0.00

The results of the 1998 survey reveal that teachers are of the opinion that the head teachers have mastered the principles of ethics as "great" and "with a few shortcomings". This opinion was expressed by 63.64% of the respondents. In the 2017 survey, this opinion was expressed by 86.36% of teachers. We found out that the quality of the inspecting activities by the inspectors increased and it was also appreciated by the teachers. We were surprised by the finding that there was also a group of teachers who could not comment on this issue. Probably, these teachers either did not know what principles were applied in the inspection process, they did not experience a real post-inspection interview, they did not receive any help from the inspectors, or they might not know about the strengths and weaknesses of their pedagogical work.

4 Conclusions and recommendations for school practice

The comparison of research surveys enables us to formulate the following conclusions:

- From the aspect of the educational work of teachers, the inspections conducted by school managers are the most beneficial. This fact was caused by the effort of the school managers to view the inspections as a means of personal growth of the teacher and not only as a control mechanism of the teachers' work. This was also confirmed by the surveys showing that the inspections carried out by the school management are now clearly focused on emphasizing the positive aspects of teachers' work. This was caused by a shift in the inspectors' perception of the inspections - they see it as a

teacher-oriented tool. Teachers also positively evaluate inspections conducted by their colleagues with longer experience who teach the same subject, as they are able to accept a possible criticism from their colleagues better. The findings show that teachers find the most beneficial for their further teaching practice those inspections, which are conducted by teachers teaching the same subject, whether the inspector is in the position of a school manager or is only an experienced teacher.

- Surveys show that adherence to pedagogical ethics has an increasing tendency in inspections, and hence, the inspectors respect teachers as equal partners. Respondents noted that pedagogical ethics was almost always, or in most cases, respected by the inspectors. This fact was justified by further information from the most of respondents who indicated that the inspectors followed the principles of performing an inspecting activity excellently or with only minor deficiencies. We can assume that the quality of the inspecting activities increases and this fact is also appreciated by the teachers. However, among respondents, there is still the opinion that respondents refuse inspections because of their unwillingness to be controlled. We think that the tendency to refuse inspections comes from bad experiences of teachers, especially during the post-inspection interview. The head teachers only use formal evaluation criteria that do not provide a sufficient amount of true and valuable information about teachers' pedagogical work.

Based on the outcomes of the surveys, the following recommendations can be formulated:

- Inspections by head teachers are beneficial for teachers, for their personal growth. They provide basic information about the work of a teacher, which also serve as a basis for the teacher's evaluation, and evaluation of his/her educational work. We can only come to proper evaluation results on the basis of a thorough knowledge of their day-to-day work and their results that the school managers can most effectively gain from the inspecting activity.
- Based on the respondents' statements, we note that ethics is maintained at the inspections by the inspectors. We recommend to the inspectors, especially during the post-inspection interview, not to emphasize the mistakes and shortcomings in the teacher's work. The inspector's unfair prejudice must not be applied in the post-inspection interview. It is correct to point out the positive and negative aspects of the teacher's work, but it is not right to criticize the personality of the teacher.
- We recommend to carry out inspecting activities according to the year-round schedule of inspections. This way, the work of each teacher can be evaluated more objectively.

Conclusion

The school management gets much information from the inspections that enable them to get an accurate picture of the pedagogical work of individual teachers and the whole school. The observation method is used during the inspecting activity. Attention is focused on the didactic indicators of the quality of the teaching process, i.e. on the quality of education provided by the teacher - the efficiency of the teacher's activities, and the quality of students' learning - the effectiveness of students' activities, the level of their knowledge, skills and abilities, and the study results. To get as accurate image as possible, inspections must not be conducted spontaneously nor occasionally, but each school must have a school year-long inspection plan, which is a part of the internal-schooling plan. A major problem that persists in the practice of inspections is their spontaneity and no planning. This is often the cause of teachers' negative attitude towards inspections. It is true that the school management should pay more attention to those teachers who achieve poorer pedagogical outcomes or have more serious deficiencies in their work. It is also obvious that classroom observations of novice teachers are on schedules as well. Each teacher should be inspected regularly in order to obtain an objective picture of his/her pedagogical work. It is very demanding to find an objective way of gathering information. Determining the constant number of inspections to get the final picture of teachers' work is useless. It depends on the type of school, the number of classes of students in the school, the composition of the pedagogical staff, it depends on the overall school climate, the level of students and also the quality of school managers. The number of inspections is also influenced by the fact, whether the school manager knows well his/her teachers, whether he/she is new to school, whether there is a permanent staff at school, or if there are a lot of new and novice teachers. It follows from the above that the realization of inspecting activities in schools is a much more complicated process than it may seem at the first sight (Bajtoš & Kašaiová, 2018). This comparative study, taking into account the twenty-year time span, has shown that the inspectors (school managers) have acquired such methods of evaluating their teachers, which objectively refer of their actual performance; that from the aspect of the teachers' own pedagogical work, the most beneficial inspections are the inspections conducted by the members of the school management; that adherence to pedagogical ethics by the inspector has an increasing tendency; and that formalism - as well as subjective evaluation of teacher's work - have a downward tendency which have disappearedffrom the conclusions of the inspection.

References

Anderson, L. W., & Krathwohl, D. R. et al. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Bajtoš, J. (1996). *Hospitácie ako determinujúci faktor kvality školy*. Prešov: Metodické centrum.

Bajtoš, J., & Kašaiová, M. (2018). *Teória a prax hospitácií*. Dubnica nad Váhom: Vysoká škola DTI.

Kmecová, I. (2018). Efficiency of Teaching Based on the Comparison of Textbooks. *Acta Educationis Generalis, 8*(1), 50-62. https://doi.org/10.2478/atd-2018-0003

Průcha, J., Walterová, E., & Mareš, J. (1998). *Pedagogický slovník*. Praha: Portál.

Rötling, G. (1996). Hospitácia ako nástroj analýzy a hodnotenia vyučovacieho procesu. *Pedagogické rozhľady*, *2*, 2-4.

Siváková, G. (2016). *Disciplína ako cieľ, prostriedok a výsledok výchovy*. Bratislava: IRIS.

Seligman, M. (2003). *Opravdové štěstí: pozitivní psychologie v praxi*. Praha: Ikar.

sciendo

Acta Educationis Generalis
volume 9, 2019, issue 2

DOI: 10.2478/atd-2019-0009

Virtuality and Development

Philosophical, Aesthetic, Psychological and Pedagogical Aspects

Imre Bús*

Received: April 2, 2019; received in revised form: June 24, 2019;
accepted: June 25, 2019

Abstract:
Introduction: Computers and the applications of today's high technology can simulate reality so realistically that virtuality has become part of both children's and adults' lifestyles (Nagy & Kölcsey, 2017; Szécsi, 2012). However, it did not emerge with the computer applications, but with human thinking and part of that, the virtual conception of the world. In addition to social changes this development can be observed on individuals as well.
Purpose: This study shows the development of virtuality through the examples of cultural, philosophical, aesthetic, then the psychological and pedagogical development of the individual with the help of some important studies.
Methods: This study presents the social and individual development of virtuality throughout theoretical analysis of the research results.
Conclusion: Virtuality has already an important role in the technological and economic sphere and its impact on social innovations, individual and social life can be felt as well. Virtuality-research, its application and improvement contribute to experience a more complete reality and to the improvement of human life quality.

Key words: virtuality, cognitive development, play, pedagogical 'as if'.

* Imre Bús, University of Pécs, Faculty of Cultural Sciences, Education and Regional Development, Pécs, Hungary; bus@kpvk.pte.hu

Introduction - About virtuality development

Virtuality and virtual reality are commonly used concepts, the interpretations of which have significantly changed. According to the former approach, virtuality means daydreaming and cloud-world, which is part of the childhood, whereas in case of adults, it is not regarded as serious but rather childish. Many people still believe that virtuality and reality are in contrast to each other, though different interpretations have already appeared.

Computers and the applications of today's high technology can simulate reality so realistically that virtuality has become part of both children's and adults' lifestyles. However, it did not emerge with the computer applications, but with human thinking and part of that, the virtual conception of the world.

Although it appeared in a primitive form with some highly developed animal species, regarding its importance, it really started with human evolution. The ancient magic, cave drawings, second and third degree and language representation, and later on the development of societies, their cultural elements like writing, reading, arts, sciences, education have always represented the development of virtuality in people's life. Typography, radio, television, then the world of computer and internet has created higher and higher level of virtuality. This development can be observed on individuals as well. Virtuality has an important role in the transition from babyhood into adult life, the elements of which can be described from different aspects.

This study shows the development of virtuality through the examples of cultural, philosophical, aesthetic, then the psychological and pedagogical development of the individual with the help of some important studies.

1 Characteristics of digital virtuality

The meaning of virtuality in today's digital world is slightly different from that in earlier times. Tales, stories, books, the radio, films, music, fine arts, religion, culture in general and even science, all of them constitute part of reality in its traditional meaning, or complement it.

Listeners and readers of stories, film viewers, participants of cultural events, religious awe, or those absorbed in scientific research and studies empathize with the actual experiences and activities. It is especially significant as the new technology facilitates the engrossment in virtuality and makes it very similar to physical reality. Thus, with the powerful effects on senses it provides absolute empathy in the virtual world. Illusion creating devices such, as 3D glasses, helmet and clothing, also help with the perception of reality. They can even provide interactivity with the possibility of actions, especially with the help of computer. Individuals can be the creators and participants of this world, where they can experience exciting adventures.

Novelty, the magical world and the opportunity to have contests stimulate them, especially children and teenagers with thirst for stimuli and adults who are more

susceptible to that. Not incidentally, they have good fun and are not bored. It is very attractive for them to be in a world where they can achieve much more with very little effort and can reach a higher level, in other words, they can be much more than in the real world with a lot of work.
Digital virtuality does not only foster games. There are several applications and their range keeps widening. The initial military applications are followed by civil usage. Virtual facilities penetrate the industrial, agricultural, commercial, medical, educational, touristic and apart from games, other entertaining activities. They cannot replace physical reality, but the simulation of certain situations and proceedings can provide help in several jobs. Users can learn, practise some work techniques and running machines with the help of life-like models. The usage of augmented reality technology proves that it is not the replacement of reality to be looked for in virtuality, but its complement. Its negative effects are also studied by several researchers, and filtering them out, virtuality can indeed make today's reality consummate (Woodford, 2018).

2 Ontological, ethical and aesthetic aspects of the changes in the meaning of virtuality and play

In the archean and partly in modern societies, the things were real in their physical appearance and could be experienced, which are transferred into the virtual world today.
From the actual point of view, the real things can be considered anachronistic and the virtual things are modern. However, both of them are present in our life, complementing and consummating each other.
As virtuality is spreading in a wider scope penetrating deeper and deeper in the economy, society and lifestyle, play is going through changes in people's life as well. Picking out the play from virtuality, two kinds of aspect can be seen: the duality of games played for our pleasure and professional games. In the ontological - anthropological relation of the experience of art, the following characteristics of the play can be underlined: Lack of commitments to goals, free movements, playing together, involvement of participants, i.e. the experienced game and the intergrowth of the playing person and the game activity. Furthermore, the use of symbols, the feast, the magic, i.e. the activities which mean some extra to the existence of man, who is always in need of complement, are in the focus of the appearance of beauty. Thus the game can be connected to symbols, their digitalization and the feasts rooted in everyday life (Bohár, 2001).
As Friedrich Schiller explains in his theory of play, man can live on two existence levels. One of them is his everyday life with the physical being, materials and needs. The other one is the thinking, freedom seeking man's aesthetic world which is beyond physical existence in the transcendent being. The interaction of the two levels create the world of play. The play relieves man of his duties and barriers of physical being, thinking and delivers freedom. Man

must endeavour to get into the higher, aesthetic level of existence from everyday life - without leaving his physical being, which can ennoble him. He also needs the excess of the material world, or rather the excess of power so that he does not have to struggle with subsistence and can get to the height of the aesthetic world and can play with advanced level, aesthetic games. Man can only have a fulfilled, high quality life if he plays (Schiller, 1971).

In his play theory of cultural history, Johan Huizinga attributes culture-creating function to the play. In his view, it is one of the most important features of man's social and advanced level play that it is not going on in the ordinary or real life, but in a different world of game. This world has its own rules which maintain its order and regulates the activities. It is separated from real life in both time and space and surrounds itself with mystery (Huizinga, 1949).

The game is going on more and more professionally, where it is not man's non-substitutability and uniqueness that can be seen, but the substitutable and replaceable man functioning more and more perfectly as part of a more and more impeccant system. What is more, the game itself is only part of the system, for example, joy and social competences are fading in professional sport. From the aspect of cultural critique, the society has neglected the features of joy sources in games since the 19th century that is why professional behaviour lacks the carefree and voluntary nature of the game. According to Huizinga, the play can only create and improve culture if it remains fair. It means, on the one hand, establishing clear, transparent and public rules, on the other hand, considering the features of human existence (such as finality). Based on this, an alternative cultural approach can be formulated, in which people take responsibility for every living being, let them exist or support their existence. Apart from the works of mass culture, simulated games and their increasing aggressivity, we can conceive the play with its mentioned values that belongs to the part of the real world (Bohár, 2001).

We can also interpret the issue from another side: the world of game is separated from reality, therefore it protects its participants from the dangers of the outside, strange world. This strange world, i.e. reality is awesome and the game means safety for us (Moltmann, 1972; Hankiss, 2006). We identify ourselves with the protecting world of a game and love living inside it. It is no wonder that we love it, as there is no pain, poverty and hopelessness, but carefree happiness. There are also rules and roles but we undertake them with pleasure because we create and keep them, behave and live accordingly, or we can even change any of them. In other words, we are the creators, shapers and almighty rulers of the world of game. It means a finer, more beautiful and better world than even the highest-level utopia. It is our own decision to cooperate with other people and agree on the order of the world of game. If we do not like it, we can build (imagine) another one. We cannot find any other freedom like this in the real world. We can make mistakes here without real punishment. What is more, we can start over with a clean slate any time. We can also combat death as we can start our

life as many times as we want to. It can be seen in the interactive games as well, if we lose one, it is no problem, we can try it again. We can also involve some uncertainty in the security of the game, but it does not cause distress because we can create confidence and safety again with the help of our creative force. The game can always have a happy ending like folk tales. Building up or destroying and rebuilding, changing our world happen at our leisure. It seems that is the reason that we prefer games.

The relationship between tales and virtuality - for its significance - should be discussed in an independent study, now we are confined only to some observations. Tales are going on the level of thoughts, whereas games are going on the level of thoughts and actions at the same time. Children love stories, especially those made up by ourselves. It is no wonder that children love these stories as they can live through the events of their own lives again and shape them to the desired form. We preserve the tales as we read, heard as we know and like them. When we are given pictures and films, we can experience that the fantasy world of tales becomes rather poor. We can also use this experience for reading the stories before watching the films. After the economic, social and the associated philosophical, aesthetic approaches, we will examine virtuality and especially its development in playing activities from the psychological and pedagogical aspect of the individual development.

3 Play, reality, and potential space

Cognition in psychology generally has two types. One of them is the objective recognition of reality with its objects and environment, the other one is based on personal experiences derived from subjective impressions, conclusions and generalizations. The first one involves the cognition of the objective reality and the second one features subjective theory streams. Winnicott was the first to suggest that there was a third, a transitional interval between the subjective and objective world. In his view, there is a third world between the individual's inner (psyche) and the outside world. For the infant, the "non self" sphere, i.e. a transitional state develops at the separation from the mother with the help of a mother - substituting, transitional object. It is a psychological space between the infant and mother, where the infant brings outside objects in and endows them with his/her imagination. Later on, transitional phenomena take over the role and function between the inner psychical reality and the outside world, in an intermediary field, in a potential space. It is the field of getting experience, which will find shape in games, later on in deliration, arts, religion, science and cultural experiences. Playing has a specially favoured role for children. Playing is not part of the inner, psychical or the outside world either, it is realised in the potential field. It features a creative experience, and - with the mixture of subjective and objective elements - the uncertainty, trust, and the movements with using the body and manipulation.

Playing in this transitional or potential space is going on in the following way. The play has a subject independent extension; on the other hand, it cannot be connected to only one element of the objective world. The play has a story, which unfolds in the fantasy world. For example, playing with dolls does not only happen in the corner with the toys, but on the level of imagination and in the chronological order of the events. It is not only playing children that we can see but all of them have the same playing activity in mind, and even an outside viewer can live through the play the same way (Winnicott, 1971).
Therefore, the transitional object and the transitional space support the infant's individual development in the course of separating from the mother and in the first experiences of the independent being.

4 Ontogeny and fantasy development

After the first separation, symbolic games facilitate the children's following developmental phase, which is described hereinafter.
The infant gains knowledge of the world through sensorimotor cognition. This stage is characterized by baby- and infanthood syncretism and joint function of emotions and thinking. Then, there is a turning point in the development of thinking and playing: symbolic substitution. According to Piaget, intelligence works in two ways: accommodation and assimilation. With the help of accommodation, infants adjust to the surrounding environment; with assimilation, they integrate their experiences about the outside world into their own thinking. Assimilation prevails over accommodation in the symbolic play. When displaying inner representation, the child substitutes the inner image with symbols. Creative substitution always happens in fantasy and role-plays. A bit poor but down-to-earth idea is attached to the inner image, which is embodied in the object of the play.
In the first of the three stages of Piaget's play development theory, the activity appears in representation, the child attaches an object similar to the one in the original activity and can play the action with that. In the second stage, at the age of 3-5, symbolic combinations appear. Children visualise not only one movement or object symbolically, but longer or shorter actions. In the third stage, pre-schoolers use collective symbols and visualization becomes more accurate, and more children create the fantasy game together. They develop their common symbols from the individual symbol combinations as their common language and game traditions. They use and agree on these common symbols, with the help of which they can think collectively. They use their experiences and apply them to resolve new situations. They practise cooperation and continuously contrast fantasy with reality. 'Dual mind', or play mind separates reality from fantasy characteristically with 'as if' and similar phrases. Rationality in plays emerges, i.e. reality elements are also used in the imaginary world, like chronological order, sequence and continuity of events, details of happenings, indicating and picturing unimportant things - while keeping the

storyline. In addition, social control is observed in fantasy plays. The feeling that everything is possible and I can do everything is confined by the others' fantasy desires, real experiences and the logic and objects of the game. Thus, fantasy and social control work together as well. The 5-6-year-old children play something that is impossible in reality but they are aware of that. Symbol creation initiates rule construction with children. Applying rules help them carry out activities that are impossible in real life (Piaget, 1951; Gerő, 2015).
Creating and using symbols is a big step in child development and makes it evident that the play does not derive from fantasy but from the events of reality and the children's own experiences. They get from the reactions to the world's phenomena through adaptation to the shaping of the world. They assimilate their experience, fantasy, more and more advanced thinking, where elements of reality and fantasy are still mixing, but are also separated with the help of the 'dual mind', the 'as if'.

5 Processing of experiences in games, drawing, and playing with puppets

There are both similar and different ways of children's procession of their experiences while playing and drawing. Fantasy works while playing and drawing as well. The syncretic imagination flow of elements of emotions, moods and thinking result in a creative item of drawing or playing. It involves the experience, fantasy and the excitement of creation. In the play, the 'as if' is fulfilled continuously with the activity and the children live through the happenings. A drawing is a still image where the child picks up a moment, a situation from the events. We can conclude the prequels and further happenings from the way of depiction, facial expression, scales, colours, i.e. the child displays a momentum of an experience. While drawing, they can also live through the course, and accompany it with different sounds, speaking and gestures. The play is happening in three dimensions where children manipulate with objects. Events appear in two dimensions in a drawing and manipulation is restricted to drawing movements. The theme of the play can be followed by drawings; their feelings, thoughts can be expressed in symbols, but rather as an illustration and addition to the playing activity. A drawing can truly express experiences if the given emotion and thought require a different form from the play, i.e. it cannot be expressed by play. Children compress the events different in time and space in their drawings. Play becomes more and more interactive and social at kindergarten age, while drawing is an individual activity (Gerő, 2015).
Besides tactile sensation, visual perception is the most important source of exploration for infants. They submerge to observe their environment. Visual experiences and visual memory are significant and a puppet show can provide the first big aesthetic experience. Puppets are different from the other

spectacular toys and picture books because they come to life in the show. If an adult perform a puppet show for kids, it is an animated tale itself. If the kids play with the puppets, they display their fantasy 'as if' they were the characters. It differs from the role-play because kids assign the activity to the puppet, and give a frame to their imagination. The style of play is influenced by the way of changing the original story. As the puppet moves and it is moveable, it is suitable for playing the actions. The puppet imitates a moving person and provides the experience of reality for the children. The unity of reality and imagination is created by the children with moving the puppets and talk in the role of puppets. Until they take the role of the puppet, they play with it like a doll. In the play with a doll, the kid is one of the people, either the mother or father, and the doll is another person, the baby. Children sometimes take the role of the baby too, they eat, cry etc. and change the roles, as they do not identify themselves completely with the doll. When they play with puppets, they invest themselves in the character, which requires more mindfulness to play the role than playing with a doll. It is possible as they can completely separate the role and the self. They often play their own life with the doll, while reproduce a tale or make up adventures with the puppets. The development of children is shown when they take roles consciously, thus identify themselves completely with the puppet. It facilitates child development (Gerő, 2015).

6 Pedagogical 'as if'

It is virtuality that can mean learning in a broad sense in pedagogy, which is studied more specifically and applied in practice. The support of the virtual world has been involved in the pedagogical arsenal for a long time. The organized educational system has been applying it in the teaching-learning process and methodology. Drama pedagogy, theatre pedagogy and in addition to them, gamification provide new possibilities in modern pedagogy.

Pedagogical 'as if' consists of two worlds, i.e. reality. The primary reality is the concrete, tangible living and non-living world, where humans are present with their physical being. The secondary reality is built on the primary one by creating a new world but only with the primary reality together. The primary reality stimulates the secondary reality, which retroacts to the primary reality and forms it. This interaction provides the possibility of pedagogical application of 'as if'.

Experiencing 'as if' spontaneously works as follows. People have a dual relationship with the surrounding natural and social environment. On the one hand, they adapt to the environment, on the other hand, they form it. The ratio of this is always changing according to the environmental morphosis and the individual's characteristics. If the ratio diverges significantly and exceeds the human tolerance range, it poses danger for the individual and triggers an automatic defence mechanism. This is the spontaneously experienced 'as if', which can ensure to swing adaptation and formation back into the ideal trail. It

appears genetically automatically with mammals, but in case of humans, it is the most complicated process. The 'as if' a spontaneous memory process, where the personality - with a beneficial change - can be competent in reality to live in the ideal trail of adaptation and formation. The spontaneous 'as if' supporting the healthy personality can be brought about intentionally. With well-designed application of the elements of primary reality, the drama pedagogists can encourage their students to experience 'as if' individually and in social forms as well, and can drive the process in the right direction.

In the course of the change in the interaction between the individual and natural - social environment our environment reflects who we are and what we are like. It shows our potentials, which are not always favourable. Unfavourable effects can be compensated with a drama play, which, in fact, is to establish relationships with the individual's environment.

The knowledge gained in the play or 'as if' gets internalized in the personality. You can step out and back in 'as if'. The drama pedagogist stimulates stepping out and back with objects, buzzwords and situations. The pedagogist's aim remains hidden and the child experiences the world indirectly. The pedagogist can take different roles in the process: dictator, democrat, an equal partner, an observer or provocateur (Móka, 1993).

Gamification, the latest trend in the application of play in pedagogy belongs to the streamline that supports non-play activities with features of the play in several fields, among others, in pedagogical practice. It can be used in the shorter form of the learning process, in school lessons and individual learning as well. In a broader sense, the virtuality of the play itself can be the learning. Children - as well as adults - basically like learning and exploring the world. If we do not implement it with compulsory, cut and dried, uniformly defined steps for everyone, but with the help of play, and children can learn according to their own needs, pace and interests, it will not be a constraint and suffering for them, but a pleasant activity. I believe that it is the best way of changing learning, which could help social advancement to a great extent.

7 To the completeness of reality

On the bases of the contexture, reality cannot be contrasted with imagination, not even with virtuality. The function and result of human intelligence is the apprehension of reality. For this, we need perception, observation, imagination, memory and complex thinking. Our apprehension of the world cannot be complete without them. We perceive, observe the objects and events in the world and imagine the responds to them. For help we recall similar situations from our memory and with thinking operations work out different possibilities to solve problems. Advanced level thinking - with the above mentioned advanced level functions together - is virtuality itself, which we use for life in the physical reality. Therefore, virtuality is not the opposite but - enhancing it to a higher level - part of reality.

It is especially known in researchers' circle where real and fictional worlds meet. One of such activities is the play, where the apparent contradiction of virtuality and reality does not cause problems since the players are present in both, thus they live in reality in its entireness with the help of the 'dual mind'. After a while, children become aware that they are present in both worlds and it does not disturb them. Distinguishing is clearer, therefore the mechanism of dual empathy is easier, which can be seen in adults' play as well. However, due to the old mindset, adults' play is often called a hobby, passion or leisure time activity because they are afraid to say the word 'play' or 'playing' to avoid appearing childish.

The fact that virtual reality in certain computer games is associated with addiction does not contradict this as addiction may develop in case of several activities if they are done in an unhealthily excessive way. The mixture of reality and virtuality is accepted in case of developing babies and infants in their care and education, saying that they are little kids. With their further development, they can distinguish the two worlds, which gives the possibility for the complex, conscious and fulfilling life in the two kinds of reality.

Conclusion

Virtuality has already an important role in the technological and economic sphere and its impact on social innovations, individual and social life can be felt as well. Virtuality research, its application and improvement contribute to experience a more complete reality and to the improvement of human life quality.

We outlined the function of virtuality in society and the development of the virtual and real world as a play in developing children. The study suggested some philosophical, aesthetic, psychological and pedagogical aspects, with the help of which the higher complexity of life might be better understood.

References

Bohár, A. (2001). *Philosophical approaches – perspective needs of culture mediation.* Budapest: Magyar Műhely Kiadó.

Forczek, E., Kunszenti, Á., & Kovács, F. (1995). A virtuális valóság oktatói szemmel. *Magyar Felsőoktatás*, 9-10.

Gerő, Zs. (2015). *Érzelem, fantázia, gondolkodás óvodáskorban.* Budapest: Flaccus.

Hankiss, E. (2006). *Fears and symbols*. Budapest: Osiris.

Huizinga, J. (1949). *Homo Ludens: A Study of the Play-Element in Culture*. London, Boston, Henley: Routledge and Kegan Paul Ltd.

Móka, J. (1993). A pedagógiai "mintha". *Drámapedagógiai Magazin, 5*, 11-13.

Moltmann, J. (1972). *Theology of Play.* New York: Harper & Row.

Nagy, Á, & Kölcsey, A. (2017). Generation Alpha: Marketing or science. *Acta Educationis Generalis*, 7(1), 107-113. https://doi.org/10.1515/atd-2017-0007

Piaget, J. (1951). *Play, Dreams and Imitation in Childhood*. London: Routledge and Kegan Paul Ltd.

Schiller, F. (1971). On the aesthetic education of man - in a series of letters. *Free spiritual life.* Stuttgart.

Szécsi, G. (2012). Communication and learning in the new media space. *Acta Technologica Dubnicae, 2*(1), 43-46. https://doi.org/10.1515/atd-2015-0052

Winnicott, D. W. (1971). *Playing and Reality*. London: Tavistock.

Woodford, C. (2018). Virtual reality. *The FREE online science and technology book.* Retrieved from https://www.explainthatstuff.com/virtualreality.html

sciendo

Acta Educationis Generalis
volume 9, 2019, issue 2

DOI: 10.2478/atd-2019-0010

The Role of Resilience in Coping with Negative Parental Behaviour

Silvia Barnová – Viola Tamášová – Slávka Krásna*

Received: June 20, 2019; received in revised form: July 5, 2019;
accepted: July 6, 2019

Abstract:
Introduction: Negative parental behaviour is among the significant risk factors that can have a negative impact on an individual's development. In certain contexts, when appropriate protective factors are available, individuals deal with adversity better and it does not come to a decrease in their social performance nor their achievement in various spheres of life.
Purpose: The purpose of the presented paper is to provide a literature review on the role of resilience in dealing with harsh circumstances when negative parental behaviour occurs in a family.
Methods: In the study, the traditional desk research method was used to gather data.
Conclusions: Exposure to negative parental behaviour – including abuse and neglect, as well as domestic violence, can have detrimental consequences for children's health and welfare. Under such circumstances, protective factors available to children play a significant role. Exposure to negative parental behaviour, including abuse and neglect, as well as domestic violence, can have detrimental consequences for children's health and welfare. Under such circumstances, protective factors available to children play a significant role. If a family fails to protect a child or even represents a risk factor in the child's life, the importance of other social institutions, such as schools, church, peer groups, etc., increases, as both internal and external protective factors are important. They can provide children at risk with support, help them develop own coping strategies and foster their resilience in order to overcome significant adversity in their families without serious harm. An individual's resilience is a decisive factor in the process of dealing with threatening situations.

Key words: family, parenting style, parental behaviour, resilience.

* Silvia Barnová, DTI University, Department of School Pedagogy and Psychology, Dubnica nad Váhom, Slovakia; barnova@dti.sk
Viola Tamášová, DTI University, Department of School Pedagogy and Psychology, Dubnica nad Váhom, Slovakia; tamasova@dti.sk
Slávka Krásna, DTI University, Department of School Pedagogy and Psychology, Dubnica nad Váhom, Slovakia; krasna@dti.sk

Introduction

Family background may be considered the basic indicator of children's development (Tamášová & Šulganová, 2016). When mentioning family, all those who had a contented childhood and grew up in an emotionally warm environment, recall situations with their beloved ones. For the lucky ones, it is very difficult to imagine what adversity some children must face in their families and that those, who should help and support them, literally hinder their healthy development.

Every responsible parent realizes the importance of treating children with love and unconditional, but not boundless respect for their personality. Education in general is an ongoing process leading towards the healthy and complex development of an individual. It is a demanding process which requires a great deal of patience. Its mission is to bring up people with free, creative and critical thinking who are able to act independently, make meaningful decisions, solve problems constructively, and take full responsibility for their actions.

Parents should possess sufficient parental skills in order to ensure their children's healthy development. Provision of a stable family background characterized by love, understanding and support as well as of a sufficiently stimulating family environment can have a significant impact on the life trajectory of a child.

1 Parenting styles

As a result of education not respecting children's personalities applied in the past, many people have not learned to freely express their feelings. Children were taught not to show anger, to control themselves and not to cry. Unconditional obedience was often required and the children's opinions were rarely taken into account. Currently, an opposite trend can be observed, emancipation of children within their families is accentuated. In education, more emphasis is placed on such values as independence, freedom, and on the development of children's personalities, emotions and individuality. For parents, it is very difficult to find a healthy balance between strictness and providing children with freedom, which are equally important. In the process of upbringing, the consciously or unknowingly applied parenting style plays a significant role as family relationships can be considered among factors playing an important role during an individual's personality development and can have an impact on the emotional developments as well as the behaviour of children and youth (Ikhardt & Szobiová, 2018). With different authors, we can find various, more or less detailed classifications of parenting styles. Among them, the following one is the most frequently cited in Slovak scholarly literature:

- Authoritarian parenting style - upbringing is based on strict following of rules with no exceptions, without accepting the views and needs of children. Children's lives are precisely organized; their independence is supressed

and thus, their self-confidence is decreased. The authoritarian parenting style is related to underestimating own abilities and the children's performance at school may be below their study potential.

- Liberal parenting style - it is the opposite of the authoritarian style, but it can have a negative impact on the child as well. There is a lack of norms and restrictions, every wish of the child is fulfilled and the needs of other family members are neglected. There is a risk that these children will not be able to work in teams and will become individualistic.
- Neglecting parenting style - parents do not take care of their children properly, they are indifferent.
- Democratic parenting style - it is based on a partnership, where parents and children make decisions about family matters together and the needs of all family members are equally respected. Children learn to take the responsibility for their actions and develop their independence. Thus, the likelihood of an easier adaptation to the needs of others as well as the ability to compromise in the future is increased. The parents require following the established rules by children, but, at the same time, trust their judgment. Such a parent-child relationship is characterized by mutual trust, and therefore, parents possess much more information on where their children are, who they are with and what they are doing in their leisure time. This parenting style is generally considered optimal.

Biddulph uses a different classification:

- Abusive parenting style - parents harm their children verbally, and sometimes also physically, label them "losers"; or keep repeating that they will achieve nothing in their lives. Gradually, children identify themselves with their labels and they are suddenly not able to solve problems constructively, but they show anger and are aggressive. They do not gain enough respect, and so, they are not able to show respect to their environment.
- Conditional parenting style - the communication between the parents and their children is based on threats and giving conditions. In this case, there is a risk that the children will be too performance-focused and will have problems with building relationships.
- Indulgent parenting style - children are isolated from any kind of adversity, including sadness, failure, conflicts and demanding situations, although they need to gain own experiences, including disappointment. Children do not have an opportunity to develop their own coping strategies which they need in situations when their parents cannot protect them.
- Neglectful parenting style - parents are not much interested in their children and their development, their primary goal is to feed and dress them. There is a lack of emotional closeness. Children feel lonely, neglected and

helpless, so they try to attract the attention of their environment by means of negative behaviour.
- The Assertively-Caring parenting style - parents lead their children towards independence (Biddulph, 2006).

Many authors, such as Masten and Coatsworth (1998), Steinberg et al. (2004) and Fontana (1997), consider "authoritative parenting" the optimal style of family education. Masten and Coatsworth (1998) found that it is related to positive academic achievement. This parenting style is characterised by the above authors as emotionally warm and supportive. Parents do not give absolute freedom to their children, but they monitor them with regards to their age and the actual context. In the family, the demands and expectations regarding acceptable behaviour are clearly defined and high, and manageable requirements on performance are placed on the children.

2 Negative impacts on children's mental development

Although it is stated in the Preamble to the Convention on the Rights of a Child that "the child, for the full and harmonious development of his or her personality, should grow up in a family environment, in an atmosphere of happiness, love and understanding" (Convention on the Rights of the Child, n.d.), it is not always so.

When the social environment makes it difficult for them to develop (such as in homes where abuse and violence occur), it is proven that social achievement and academic achievement are poorer, and the risk of substance abuse is increased (Zucker, 2008). Children growing up in such a family environment find themselves in demanding situations when, due to insufficient support, they are not able to cope with problems effectively, and they cannot choose socially acceptable strategies which could help them overcome adversity. Based on the results of the research carried out by Rae-Grant, Thomas, Offord and Boyle; Armstrong, Stroul and Boothroyd (in Ungar, 2005) state that risk factors inside the family represent the biggest threat to children as for psychiatric problems.

In order to cope with family problems, individuals typically choose from three forms of protective reactions - attack, escape (rash, chronic escapes, wandering, lying), and coping.

In scholarly literature, four basic types of adverse situations occurring in families can be found - stress, conflicts, frustration and deprivation.

2.1 Busy parents

Recently, our lives are getting faster and faster. Parents spend a lot of time working to ensure the best possible conditions for their families and to pay all the fees for their children's leisure-time activities as well as extra classes at school, not taking into account that the children are often not interested in them at all and are often overloaded. An increase in the number of dual career families

can be observed and the time spent together with their children is slowly disappearing. The leisure time activities offered by various institutions cannot replace the joint family activities. In addition, it has a negative impact on children if they see their parents exhausted in the evenings, not to mention that such parents are nervous and often irritated. As a result, children may become insecure, have low self-confidence, may stop to trust their parents and take part in socially unacceptable activities.
The children of busy parents are often emotionally deprived due to the limited time spent with their parents and insufficient communication in the family. In adulthood, they are not always able to lead normal family lives as their parents are not optimal role models for them.

2.2 Incomplete, disturbed, divorced and follow-up families
Family stability influences children's behaviour and outcomes, academic performance and achievement, the development of social skills, and their emotional functioning. Children reared in safe and stable environments, can adapt better both in the short and long terms compared to children being exposed to harmful experiences (Harden, 2004). Growing up in incomplete, disturbed, divorced or follow-up families can be considered an adverse situation.
In incomplete families, either a parent or a child is missing (childless couples). Family education in incomplete families should not be significantly different from full families, only the situation is more demanding. The absence of a parent does not necessarily have to be reflected in the mental health of children, since difficult conditions do not necessarily imply bad conditions, although the roles of mothers and fathers are specific, complementary and, in a certain sense of meaning, irreplaceable. Such a situation requires an increased degree of attention and patience, and much more time spent together in order to compensate the child for the missing parent.
In Slovakia, approximately one quarter of children grow up in divorced families (Ondrejkovič & Majerčíková, 2005), but not all of them suffer from divorce. When the conflict between parents is intense, chronic and overt, divorce is an effective release form the toxic home environment for children (Pedro-Carroll, 2001). Rutter (2005), based on the results of his research, states that a problematic process of separation of parents brings a risk for the child, whereas in the case of smooth separation, it does not have to be so. It is not the separation of parents itself that is decisive but the presence of a conflict between them.
Every child suffers when his/her parents quarrel and feels that the overall family climate is disturbed. Children want their parents to solve the problem between them. They try to attract their attention at all costs, even by negative or aggressive behaviour. The impact of a crisis situation may become visible as late as in the adulthood.
In cases when parents opt for separation or divorce, they often forget that living in separate households does not mean the end of the family, only its form

changes. For the further development of children, it is important to preserve the existing family relationships. Children should feel safe and must be sure that they are loved by both parents. Experience shows, that only few couples are able to maintain positive relationships, on the contrary, they manipulate or use their children against their former partners. Thus, parents expose their children to stressful situations. Vlčková (2001) considers such treatment a psychiatric abuse. According to Pedro-Carroll (2001), divorce has an impact on children. She characterizes new circumstances as follows:

1. Divorce is not a single event but a series of transitions and family reorganizations that modify the lives and developmental context of children. Divorce is synonymous with change - a myriad of changes that range from emotional to economic, e.g., changes in family relationships, standard of living, neighbourhood, friends, remarriage, and sometimes even loss of a beloved pet.
2. The process of adjustment to these changes is stressful for families. However, it is important to note that family members are not affected uniformly by a divorce. What may be a positive life change or coping strategy for one family member is not necessarily beneficial for other family members. Children rarely wish for a divorce, so their reactions and adjustment processes are understandably often divergent from their parents.
3. Although the process of marital dissolution is surely stressful for children, there is substantial variation in their adjustment to divorce over time. However, most children experience considerable distress in the early stages. Sadness, anxiety, anger, resentment, confusion, guilt, fears for their future, loyalty conflicts, somatic symptoms and grieving for absent parents are frequent early reactions. The trajectory of children's long-term adjustment is shaped by a number of risk and protective factors.

As part of her research focused on the impact of divorce on children, the same author identified the following protective factors:

a) Individual factors: realistic appraisal of control; accurate attributions; active coping style; effective coping skills;
b) Family factors: protection from interparental conflict; psychological well-being of parents; solid, supportive parent-child relationships; authoritative parenting, household stability and structure;
c) Extra-familiar factors: supportive relationship with positive adult models, support network: family, school and community evidence-based preventive interventions; providing support and skills training (Pedro-Carroll, 2001).

The results of Pomrenke's (2007) qualitative research also confirmed that children from separated or divorced, high-conflict families need to have access to strong support within the family (step-parents, other family members) and external support systems (peers, teachers, other professionals) in order to cope

with the unstable family environment. At the same time, the results show that children living in unstable families having at disposal such protective factors exhibited resilient characteristics. The author assumes that external support systems may supplement family strength.

Pomrenke's findings confirm that schools or their approach to students play a significant role in their students' ongoing development, especially in the case of those who do not have optimal conditions for their development at home. Schools can help students overcome the adversity that they have to face at home by means of providing a favourable school climate, effective curriculum and teachers' appropriate approach, i.e. by offering a wide range of protective factors.

The so-called follow-up families are created when one of the children's parents finds a new partner and gets married, i.e. the child gets a foster parent. Some children adapt to such a new situation easily, but others might have problems with coping with it and conflict situations occur between them and their step parents. Although there is a prejudice, that the relationship between children and their step-parents is usually negative, the above Pomrenke's qualitative research on children which previously lived in high conflict families, did not prove it. Many of the participating children had very good relationships with their step-parents.

2.3 Loss and sadness

People are confronted with a loss several times during their lives, including children. In their case, it can be the separation or divorce of parents, when their older sibling moves away, the whole family moves, children have to change their school, when someone close passes away or when their pet dies. Children lose their safety, feel helpless and desperate. Such a loss is accompanied with sadness which can result in trauma and cause anxiety. It can lead to closeness and isolation from the surrounding world, aggressive and socially not accepted behaviour, i.e. the inability or unwillingness to follow the generally accepted patterns of behaviour (Jandourek, 2001). The extent to which children can cope with loss and sadness depends on the level of their resilience and the available protective factors: their personality, family cohesion, school and community support, and the overall context in which they live. Mallon (as cited in Kyriaciou, 1996) distinguishes between three stages of grief: the initial stage of grief which is the stage of protest, the active phase characterized by confusion and the receding phase which is the stage of reorganization.

2.4 CAN – Child Abuse and Neglect

Domestic violence is a phenomenon that everyone condemns, yet, it is still a permanent social problem. In the society, there is a prejudice that domestic violence is typically present in families from lower social strata, alcoholics, drug addicts, etc., but it also occurs in well-placed families where both parents are

educated and often have a high social status. As many authors agree, the common feature of risky parents is their lack of parental competencies.

Based on world statistics, Dunovský (1999) states that from 1 to 2% of children are abused or neglected. Nearly one half of them is exposed to multiple types of maltreatment (Harden, 2004). In some cases, children witness cruelty and violence in the family, or even become victims of it. Regardless the form of domestic violence, children adopt the observed patterns of behaviour which can later cause serious problems in their family lives and in upbringing their children; there is a likelihood of becoming a neglectful and abusive parent in the future. Such a phenomenon is referred to as deprivation cycle.

Vaníčková et al. (1995) define child abuse and neglect as any conscious or unconscious activity committed by a parent, educator or other person against a child, which results in damage to their health and healthy development. Abuse is intentional and has a regular character, although, the aggressors do not always realize what they are doing. It is usually a long-term process (as children often try to hide the problem or the adults around them do not believe them), for which misuse of physical, psychological and social power are characteristic (Ondrejkovič, 2001). Victims experience an inner conflict between trying to avoid pain on one hand, and maintaining a close relationship or contact with their parents on the other hand. Such a situation causes helplessness and frustration leading to emotional deprivation, psychosomatic problems and, in extreme causes, to the death of a child. The so-called Child-Abuse Syndrome increases the likelihood of adopting the role of a victim and being bullied at school as well.

Kopčanová (2002) distinguishes between four types of child abuse:

1. Physical abuse (e.g. fights): if it is not the case of a "clever" aggressor who does not leave a trace, it is easier to recognize than mental abuse. There are visible traces on the child's body - bruises, burns, frequent fractures, or the child does not develop appropriately to his/her age. Such a child is often tired and avoids physical contact with others.
2. Mental or emotional abuse (e.g. emotional extortion, constant humiliation, exposure to stress, pressure, rejection, and neglect) have an impact on the mental health of children. Mental abuse of children is also associated with eating disorders (especially in the case of girls) and suicide attempts.
3. CSA - Child Sexual Abuse, including both its contact, or non-contact (masturbation, watching films, collecting pictures, etc.) forms, is still a taboo in the society. Between one quarter and one-third of all cases of sexual abuse occur in households and is committed by the victim's family members. The most commonly abused children are those with insufficient self-confidence, the weak individuals who are not able to protect themselves. In addition to physical injuries, the mental health of children is negatively influenced, too. The Internet represents another source of risks for children as they may become used for the purposes of child

pornography, not rarely by their own parents, relatives, well-known people, but also by strangers who somehow gain the trust of children, or offer some kind of reward to them.

4. Neglect - its symptoms of physical neglect are easy to recognize - the child is malnourished, frequently ill, his hygiene is neglected. In the case of emotional neglect, e.g. parents focus on themselves, their problems and own relationship and do not sufficiently communicate with their children or they do not spend enough time together.

2.5 Victimless crime

Victimless crime includes such negative social phenomena as gambling, drug addiction or prostitution. The individual does not harm others directly, but has a negative impact on the society as such, on the life of the individual him/herself as well as on everyone close to him/her.

The ecologies in which children are situated have the greatest influence on their formation. Parents are role model for their children, so it is likely that they imitate their behaviour and adopt their habits. If a child grows up in an environment where problems with substance abuse, gambling, or prostitution occur, there is a serious risk that the child will adjust the existing conditions and adopt such a way of life in the adulthood as well.

It should be highlighted that an increased probability does not mean a rule. Many children growing up in such an environment, due to their resilience and available external protective factors, become healthy and successful adults with a negative approach towards drugs and gambling. For these individuals, the motivation comes from the recognition and appreciation from their environment for being able to achieve success despite the exposure to various challenges, their efforts help them to take control over their lives and the world around them becomes more predictable for them. Utilizing success as a coping strategy may help them in the process of transition from a pathological to a healthy environment.

The situation of children living in toxic environments is made even more complicated by the fact that the primary problem is usually accompanied by a whole series of other problems such as delinquency, various forms of physical, emotional, and/or sexual abuse and neglect; repeated separation or the outright divorce of the parents; problematic behaviour of siblings etc.; and stressors increasing the risk of a negative impact on the child cumulate (Hall & Webster, 2007).

The issues of alcoholic families were dealt with by Ruben (as cited in Hall & Webster, 2007), who presented the rules operating in an alcoholic home. The basic rule in such households is not to talk about family problems and to limit communications with others outside the home in order to keep family secrets. Children growing up in such an environment are encouraged not to trust anyone and not to express their feelings openly, so it is not unusual that alcoholism in

the family remain unnoticed for a long time. These children often lack the social skills necessary to create and maintain personal relationships, are relational, oversensitive to any kind criticism, and misinterpret what the communication partner tries telling them. The inability to cope with such adversity can eventually generate a great deal of anger (Hall & Webster, 2007).
Another rule reported by Ruben is that children try to prevent conflicts and confrontations at all costs because they often result in their parents' unexpected aggression and subsequently lead to the children's punishment. Therefore, children try to escape and thus, do not have opportunities to learn effective problem-solving strategies. Escape as a strategy of coping is often insufficient as the conflict does not disappear, but by postponing its solution its intensity increases.
Zucker et al. (2008) point out that in the case of the children of alcoholics, the risk of antisocial behaviour is higher. The children of alcoholics are lower in sensibility than their classmates, often have poorer academic achievement, truancy problems, and are more aggressive than their schoolmates. There is also a higher risk of addictions. These children are more likely to drink alcohol in their adulthood, they will probably drink more than their peers, and the development of problems with alcohol may be faster. Having alcoholic parents increases the likelihood of a child's drinking through having alcohol available and accessible in the home, insufficient parental supervision, but, above all, genetic and socialization factors representing a risk to children's development, and we cannot forget to mention the prenatal alcohol exposure.

2.6 Socially disadvantaged children

Students' academic achievement, as stated by Montousse and Renouard (2005), closely correlates with their social backgrounds. Children from an intellectually stimulating environment are more likely to study longer and achieve better results than students from socially disadvantaged groups, who are often lagging behind in terms of cognition.
Children from a socially disadvantaged environment rarely have favourable learning conditions, their needs are frequently not satisfied which may lead to biological, emotional or social deprivation.

3 Resilience

In the case of families where negative parental behaviour occurs, resilience can be discussed on two levels – on the individual and the family level.

3.1 Children's resilience

Resilience is undoubtedly of a great importance in the life of an individual as it is a special kind of competence, "an individual's capacity to recover, adapt, and keep mental balance and normal functioning when exposed to significant adversity or a personal crisis, i.e. the sum of such attitudes, behaviour and

external factors that help people adapt to changing conditions and meet new challenges" (Barnová & Gabrhelová, 2017). Kaplan (as cited in McCubbin, 2001), in relation to posttraumatic growth, defines resilience as giving a chance to achieve levels of development that go beyond what would have been reached without stress.

Children's performance is determined by many endogenous and exogenous factors including the level of their resilience, the seriousness of adversity, the available protective factors and the adopted coping strategies. Petrulyté (2018) states that the more strengths they gain, the more positive their development is. This is emphasized by Tamášová and Barnová (2001), who distinguish between four basic types of reactions to significant adversity - tolerance to adversity, increased functioning, decline in functioning (hidden resilience), and failure.

The importance of resilience, fostering it and developing a wide range of coping strategies in the life of children exposed to cumulated risks was proven by Masten's (1997) research. Its results show that the performance of "competent children" with little adversity in their environments and resilient children exposed to very high levels of adversity was very similar as for the awareness self-worth, self-efficacy and mental health. What is more, resilient children sometimes perform even better as they learned how to manage stress, how to cope with adversity, or how to take an advantage from it, and so they can recover from traumatic experiences sooner and better compared with their less resilient peers.

3.2 Family resilience

There is always a chance to change the unfavorable conditions within the family environment, to take advantage of crisis situations and to introduce changes that will improve the family members' quality of life. Families, similarly to individuals, apply various coping strategies to deal with adversity and to maintain their functioning. In the case of family resilience, not the individual family members, but the family as a whole and its scheme of its functioning are considered.

A family crisis can be defined as a situation characterized by a long-term disruption, disorganization, or shortcomings in the family social system. According to McCubbin and McCubbin (as cited in Ungar, 2005), the ability of a family to maintain its functionality or to recover and transform, i.e. to achieve balance and harmony, depends on the effectiveness of the six resilience related key competencies - managing the accumulation and reduction of coexisting or persistent historical stressors and pressure; mobilization of the strengths and individual capabilities of its members, as well as exploitation of the strengths and abilities of the group as a whole (restoring, and reinforcing the strengths that may have been weakened or damaged under the influence of trauma; creation and implementation of new patterns of functioning, changing and stabilizing the existing ones, and ensuring the continuity of new and preserved patterns; and to

maintain emotional stability); adoption of the strengths of the community and its resources in order to achieve harmony with the community; minimizing the conflicts and maximizing the consistency between the family schema and the institutionalized forms of behaviour, and thus, promoting the feeling of manageability, clarity and meaningfulness; using a positive approach to problem solving and the application of the adopted coping strategies; sharing meanings and behavioural standards that are in line with the family scheme.

Conclusion

Negative parental behaviour represents a significant risk factor in children's lives as they, due to their age and lack of experiences, form a vulnerable social group. Therefore, in order to overcome adversity without serious harm, their resilience must be promoted and the repertoire of coping strategies should be continuously widened. On the other hand, it must be highlighted that resilience is not unlimited, automatic or universal, and certainly does not mean that one is invulnerable. Gabarin (as cited in Ungar, 2005) points out that every individual has certain limits, when exceeding them, it comes to failure. The same applies to the already adopted coping strategies - they are culturally and situationally related and definitely not universal.

Professionals should be aware that children at risk need help and support; and especially teachers should realize that schools represent an important protective factor in children's lives. Unfortunately, the school building is often the only place where children feel safe and secure.

Acknowledgements

The authors gratefully acknowledge the contribution of the KEGA Grant Agency of the Slovak Republic under the KEGA Project 004DTI-4/2018 "Model that will support the development of emotional intelligence of pupils at secondary vocational schools."

References

Barnová, S., & Gabrhelová, G. (2017). *Resilience in Schools.* Karlsruhe: Ste-Con.

Biddulph, S. (2006). *Tajemství výchovy šťastných dětí* (2nd edition). Praha: Portál, 2006.

Convention on the Rights of the Child. Retrieved from http://www.ohchr.org/EN/ProfessionalInterest/Pages/CRC.aspx

Dunovský, J. et al. (1999). *Sociální pediatrie.* Praha: Grada.

Fontana, D. (1997). *Psychologie ve školní praxi*. Praha: Portál.

Hall, C. W., & Webster, R. E. (2007). Risk Factors among Adult Children of Alcoholics. *International Journal of Behavioral Consultation and Therapy*, *3*(4), 494-511.

Harden, B. J. (2004). Safety and Stability for Foster Children: A Developmental Perspective. *The Future of Children, 14*(1), 30-47. Retrieved from http://files.eric.ed.gov/fulltext/EJ796432.pdf

Ikhardt, P., & Szobiová, E. (2018). Štýly rodičovstva a mentálne zdravie adolescentov. In E. Gajdošová, M. Madro, & M. Valihorová (Eds.), *Duševné zdravie a wellbeing virtuálnej generácie* (pp. 64-78). Bratislava: IPčko.

Jandourek, J. (2001). *Sociologický slovník.* Praha: Portál.

Kopčanová, D. (2002). Ochrana pred týraním a zneužívaním detí v domácom a školskom prostredí. In *Poradca pri vedení školy 2* (pp. 1-28). Bratislava: RAABE.

Kyriacou, C. (1996). *Klíčové dovednosti učitele*. Praha: Portál.

Masten, A. S. (1997). Resilience in Children at-Risk. *Research/Practice Newsletter, 5*(1). Retrieved from http://cehd.umn.edu/CAREI/Reports/Rpractice/Spring97/resilience.html

Masten, A. S., & Coatsworth, J. D. (1998). The Development of Competence in Favorable and Unfavorable Environments. *American Psychologist, 53*(2), 205-220.

McCubbin, L. (2001). *Challenges to the Definition of Resilience*. San Francisco, CA. Retrieved from http://files.eric.ed.gov/fulltext/ED458498.pdf

Montoussé, M., & Renouard, G. (2005). *Přehled sociologie*. Praha: Portál.

Ondrejkovič, P. (2001). *Sociálna patológia* (2nd revised edition). Bratislava: VEDA.

Ondrejkovič, P., & Majerčíková, J. (2005). Zmeny v spoločnosti a zmeny v rodine – kontinuita a zmena. *Sociológia, 38*(1), 5-30.

Pedro-Carroll, J. (2001). *The Promotion of Wellness in Children and Families: Challenges and Opportunities*. San Francisco, CA. Retrieved from http://files.eric.ed.gov/fulltext/ED458502.pdf

Petrulyté, A. (2018). Adolescents' social emotional health and empathy from the perspective of positive psychology. In E. Gajdošová, M. Madro, & M. Valihorová (Eds.), *Duševné zdravie a wellbeing virtuálnej generácie* (pp. 20-31). Bratislava: IPčko.

Pomrenke, M. (2007). Using Grounded Theory to Understand Resiliency in Pre-Teen Children of High-Conflict Families. *The Qualitative Report, 12*(3), 356-374. Retrieved from http://files.eric.ed.gov/fulltext/EJ800194.pdf

Rutter, M. (2005). Environmentally Mediated Risks for Psychopathology: Research Strategies and Findings. *Journal of the American Academy of Child & Adolescent Psychiatry, 44*(1), 3-18.

Steinberg, L. et al. (2004). The Study of Developmental Psychopathology in Adolescents. In D. Cicchetti (Ed)., *Handbook of Developmental Psychopathology*. New York: John Wiley & Sons, 2004. Retrieved from https://www.nyas.org/ebriefreps/ebrief/000219/archives/Developmental Handbook.pdf

Tamášová, V., & Barnová, S. (2011). School climate as the determinant of the relationship between the level of students' resilience and school satisfaction. *Acta Technologica Dubnicae, 1*(1), 19-37. https://doi.org/10.1515/atd-2015-0037

Tamášová, V., & Šulganová, Z. (2016). Promotion of Family Reading in the Context of Children's Early Reading Literacy Development. *Acta Technologica Dubnicae, 6*(2), 9-38. https://doi.org/10.1515/atd-2016-0009

Ungar, M. (Ed.): *Handbook for Working with Children and Youth.* Thousand Oaks: SAGE.

Vaníčková, E. et al. (1995). *Násilí v rodině.* Praha: Karolinum.

Vlčková, M. (2001). *Týrané dieťa.* Bratislava: Univerzita Komenského v Bratislave.

Zucker, R. A. et al. (2008). Early Developmental Processes and the Continuity of Risk for Underage Drinking and Problem Drinking. *Pediatrics*, 121, S252-S272.